

## APPENDIX H

Title 13 Lewis County Code

Resolution of Approved Utility Rates

Design and Construction Standards

CIP Cost Estimates

Cross Connection Control Program



**BEFORE THE BOARD OF COUNTY COMMISSIONERS  
OF LEWIS COUNTY, WASHINGTON**

An Ordinance of Lewis County, WA,  
Repealing and Replacing  
LCC Title 13 Public Utilities

)  
) **ORDINANCE NO. 1265**  
)

**WHEREAS**, Lewis County Code (LCC) Chapter 1.05.020 authorized the Board of County Commissioners (BOCC) to amend and adopt separate ordinances for inclusion in the LCC; and

**WHEREAS**, in response to an immediate need to provide water service in the City of Vader to correct health and safety deficiencies, the BOCC enacted Ordinances No. 1215 in 2010 and No. 1221 in 2011 authorizing and establishing requirements to construct, operate and maintain a system of sewerage and water according to RCW 36.94; and

**WHEREAS**, after five years of operating and managing the public Vader-Enchanted Valley Water System, it is found that new code provisions are needed to comply with all necessary state and federal regulations to provide quality potable water to our water utility customers; and

**WHEREAS**, the BOCC held a public hearing as required under state law to take public testimony and to consider the matter; and

**WHEREAS**, Ordinance No. 1265 repeals and replaces all provisions of LCC Title 13 and does not diminish any other provisions of the LCC; and

**WHEREAS**, the BOCC reviewed the recommendations of the Lewis County staff, considered testimony from the public and found that the proposed ordinance is in the best interest of the public.

**NOW THEREFORE BE IT ORDAINED** by the BOCC that it repeals and replaces LCC Title 13 with the language provided in Attachment A.

**DONE IN OPEN SESSION** this 22<sup>nd</sup> day of February 2016, after a public hearing was held on February 22, 2016 pursuant to notice published in the East County Journal on February 10 and 17, 2016.

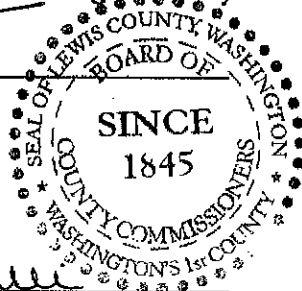
APPROVED AS TO FORM:

Jonathan L. Meyer, Prosecuting Attorney

By: Civil Deputy

ATTEST:

Karri Muir, CMC, Clerk of the Lewis  
Board of County Commissioners



BOARD OF COUNTY COMMISSIONERS  
LEWIS COUNTY, WASHINGTON

P.W. Schulte, Chair

Gary Stamper, Vice Chair

Edna J. Fund, Commissioner

**Ordinance No. 1265**

**ATTACHMENT A – Title 13 PUBLIC UTILITIES**

**Title 13  
PUBLIC UTILITIES**

**Chapters:**

- 13.05 Purpose**
- 13.10 Definitions**
- 13.20 General**
- 13.30 Service**
- 13.40 Latecomer Utility Hookups**
- 13.50 Design Guidelines**
- 13.60 Water**
- 13.70 Sewer**
- 13.80 Water and Sewer Service Connections**

**Chapter 13.05  
PURPOSE**

**Sections:**

- 13.05.010 Purpose.**

**13.05.010 Purpose.**

The purpose of this title is to establish a comprehensive system to manage, operate, and maintain a county public utility system of sewerage, water and drainage facilities consistent with and under authority of Chapter 36.94 RCW. Chapter 36.94 RCW recognizes that the construction, operation and maintenance of a system of sewerage and water is a county purpose.

**Chapter 13.10  
DEFINITIONS**

**Sections:**

- 13.10.010 Definitions.**

**13.10.010 Definitions.**

“Administrator” shall mean the director of public works or his/her authorized designee.

“Applicant” shall mean a person or entity including his successors and assigns, representing the property owner and formally asking for utility services or approval from the administrator of Title 13.

"Approved air gap" means a physical separation between the free-flowing end of a potable water supply pipeline and the overflow rim of an open or non-pressurized receiving vessel.

To be an air gap approved by DOH, the separation must be at least:

- (a) Twice the diameter of the supply piping measured vertically from the overflow rim of the receiving vessel, and in no case be less than one inch, when unaffected by vertical surfaces (sidewalls); and
- (b) Three times the diameter of the supply piping, if the horizontal distance between the supply pipe and a vertical surface (sidewall) is less than or equal to three times the diameter of the supply pipe, or if the horizontal distance between the supply pipe and intersecting vertical surfaces (sidewalls) is less than or equal to four times the diameter of the supply pipe and in no case less than one and one-half inches.

"Approved atmospheric vacuum breaker (AVB)" means an AVB of make, model and size that is approved by DOH according to WAC 246-290-010.

"Approved backflow prevention assembly" shall mean a reduced pressure backflow assembly (RPBA), reduced pressure detector assembly (RPDA), double check valve assembly (DCVA), double check detector assembly (DCDA), pressure vacuum breaker assembly (PVBA), or spill resistant vacuum breaker assembly (SVBA) of make, model and size that is approved by the State Department of Health (DOH). Assemblies that appear on the current approved backflow prevention assemblies list developed by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research or other entity acceptable to DOH are considered approved by DOH. "Backflow assembly tester (BAT)" means a person holding a valid BAT certificate issued under chapter 246-292 WAC.

"Board" shall mean the Lewis County board of county commissioners.

"Building sewer" shall mean the portion of the sewer line beginning two feet outside the outer foundation wall of the structure and extending to the edge of the right-of-way with no common sewers discharging into it. The building sewer is owned and maintained by the property owner.

"Building sewer permit" shall mean a permit issued by the county to monitor and to control work on sanitary side sewers to assure it is performed to specific and general standards.

"Commercial" shall mean any nonresidential customer who engages in business activities or combination of business and residential activities if combined through a single service meter.

"Connection" shall mean any physical connection to the utility water system by any water service or any private water system, or any pipeline extension.

"Contractor" shall mean a person, partnership, firm, corporation or joint venture contracting with the applicant to prescribed work for the applicant.

"Cost" shall mean the cost of labor, material, transportation, supervision, engineering, administration and all other necessary overhead expenses.

"County" shall mean Lewis County, Washington.

"Cross-connection" shall mean any actual or potential physical connection between a public water system or the consumer's water system and any source of non-potable liquid, solid or gas that could contaminate the potable water system by backflow.

"Cross-connection control program (CCCP)" shall mean the administrative and technical procedures the utility division implements to protect the public water system from contamination via cross-connections as required in WAC 246-290-490.

"Cross-connection control specialist (CCS)" shall mean a person holding a valid CCS certificate issued under chapter 246-292 WAC.

"Customer" shall mean any person, entity, including but not limited to an individual, firm, corporation, partnership, joint venture, limited liability entity, tribe, political subdivision, municipal corporation, state entity, federal entity or other entity, obtaining or using water service from the water system of the utility.

"Department" shall mean the department of public works of Lewis County.

"Department of Health (DOH)" shall mean the State Department of Health.

"Department of Transportation (WSDOT)" shall mean the State Department of Transportation.

"Design or construction standards" shall mean design guidance adopted by the County or approved by the Lewis County Engineer.

"Director" shall mean the director of public works or his/her authorized designee.

"Easement" shall mean the right granted by a property owner to another to make lawful and beneficial use of a defined area of the owner's property for a specific purpose created through an approved agreement.

"Ecology" shall mean the State Department of Ecology.

"Engineer" shall mean a professional engineer licensed by the state of Washington in civil engineering.

"Equivalent residential unit (ERU)" shall mean the unit used to calculate water or sewer consumption by a typical full-time single-family residence.

"Income" shall mean any gross income as defined in Section 61(a) of the Internal Revenue Code of 1954, as now in effect or hereafter amended. Gross income being described as all income from whatever source derived including but not limited to the amount of money earned before deducting for taxes, insurance, and other deductions, including income from Social Security retirement and disability, federal civil service, pensions, wages, salaries, self-employment, rental property, disability, alimony, child support, interest income and dividends, public assistance payments, unemployment compensation, trust or estate income, and retirement benefits.

"Industrial" shall be as defined in Chapter 17.10 LCC.

"Interceptor" shall mean a sewer pipe receiving flow from a number of main or trunk sewers, and force mains.

"Latecomer" shall mean any person who was not an original participant in the construction of a water or sewer system improvement or extension, and who later requests service using or benefitting from such water or sewer system improvement or extension.

"LCC" shall mean Lewis County Code.

"Local improvement district (LID)" shall mean a public improvement provided to a specific area that is specially benefitted and paid by a special assessment of a defined set of property owners benefiting from the improvement as governed by the applicable state statutes and regulations and local ordinances.

"Low- income senior citizen residential customer" shall mean a person who is a residential customer 62 years of age or older and whose total income, including that of the spouse or co-tenant of the utility account holder, does not exceed the low income figure for Community Development Block Grant (CDBG) projects in accordance with the utility division's policy.

"Low- income totally disabled residential customer" shall mean a person who is a residential customer classified as totally disabled by the Social Security Administration and whose total income, including that of the spouse or co-tenant of the utility account holder, does not exceed low income figure for Community Development Block Grant (CDBG) projects in accordance with the utility division's policy.

"Multiple dwelling" shall mean a dwelling which is either rented, leased, let or hired out, to be occupied, or is occupied as the residence or home of two or more families living independently of each other, including but not limited to residential duplexes, apartment buildings, condominiums, mobile home parks, trailer courts or similar types of multiple dwelling arrangements.

"Parcel" shall be as defined in Chapter 17.10 LCC.

"Private sewer" shall mean any portion of the sewer conveyance system or lines connected thereto, located on private property where no easements are granted to the county. Maintenance of a private sewer will be the responsibility of the property owner(s).

"Private utility system" shall mean any water or sewer system which is not part of the utility system described in this title.

"Private water" shall mean any portion of the water system not owned or managed by the utility division or not defined as public water.

"Property owner" shall mean the fee owner, as determined by the records of the County Auditor, except that with respect to property being sold under a real estate contract it means the contract purchaser, with respect to property subject to a deed of trust it means the grantor, and with respect to mortgaged property it means the mortgagor.

"Public sewer" shall mean the portion of the sanitary sewer located within the public right-of-way or easements that are owned, operated and maintained by the county.

"Public water" shall mean any system providing water for human consumption through pipes or other constructed conveyances, excluding a system serving only one single-family residence and a system with four or fewer connections all of which service residences on the same farm; as further defined in WAC 246-290-020 and RCW 70.119.020. "Residential service" shall mean water or sewer service to a single-family or multiple dwelling using water for domestic use.

"Service area" shall mean the specific area or areas a water or sewer system currently serves and where it plans to provide water or sewer service as delineated in Lewis County's water and sewer general plan

adopted under Chapter 36.94 RCW. This may be comprised of the existing service area, retail service area, future service area, and include areas where water is provided to other public water systems.

“Sewage” shall mean water carrying waste discharged from sanitary facilities.

“Sewer lateral” shall mean the section of the sanitary sewer line extending from the utility’s main to the edge of the public right-of-way.

“Sewer main or trunk” shall mean a sewer pipe that received flow from one or more sewer laterals.

“Sewerage” shall mean a system of sewers.

“Sewerage and/or water general plan” shall mean the water system plan that is required and approved by DOH according to WAC 246-290-100, and the sewer system plan that is required and approved by Ecology according to WAC 173-240-050 and 173-240-060. These plans must also be adopted into the Lewis County comprehensive plan.

“Side sewer” shall mean the same as “sewer lateral.”

“Standard Plans” shall mean the most recent Lewis County development standard detail plans approved in Titles 13 and 15 of the LCC as administered by the Department of Public Works.

“Standard specifications” shall mean the most recent edition of the Standard Specifications for Road, Bridge and Municipal Construction, as published by the Washington State Department of Transportation, and the Washington State Chapter of the APWA Standard Plans for Road, Bridge and Municipal Construction, and any amendments.

“Utility” shall mean the water and sewer systems owned or managed by the utility division.

“Utility division” shall mean the utility division within Lewis County public works.

“Utility local improvement district (ULID)” shall mean a public utility improvement provided to a specific area that is specially benefitted and paid by a special assessment of a defined set of property owners benefiting from the improvement. The difference between an LID and a ULID is that utility revenues are pledged to the repayment of the ULID debt along with the assessments on the benefitted properties.

“Utility review committee” shall mean a committee created by the board of county commissioners pursuant to LCC 13.20.030.

“Water service installation” shall mean that portion of a public water line from a water main or stub line of a water main to the water meter of the customer to be served. A water service installation consists of a saddle, corporation stop, water services line, meter setter, meter, meter box, and appurtenances required to furnish water service.

“Water system plan” shall mean a water system plan prepared to include the operational, technical, managerial and financial capability to address present and future needs consistent with applicable, relevant land use plans that is approved by DOH per WAC 246-290-100.



## **Chapter 13.20 GENERAL**

### **Sections:**

- 13.20.010 Administration.
- 13.20.020 Utility division.
- 13.20.025 Applicability.
- 13.20.030 Utility review committee.
- 13.20.040 Connection fees and rates.
- 13.20.050 Liability.
- 13.20.060 Violations and appeals.

### **13.20.010 Administration.**

The board appoints the director of public works to be the administrator of the utility division and delegates, grants and conveys to him or her such duties, responsibilities and authority as are necessary and proper to manage and operate the utility system consistent with state law and regulations and the rules and regulations adopted by Lewis County. The administrator is authorized to:

- (1) Adopt and implement regulations that are reasonably necessary to implement the provisions of this chapter pursuant to state law and regulations and county ordinances and regulations.
- (2) Amend the design or construction standards in accordance with sound engineering standards and practices.
- (3) Administer the planning, design, acquisition, construction, maintenance, operation, and capital improvement plans and programs of the utility system.
- (4) Propose fees, charges, rates and deposits for installation, inspections, permits, connections, usage and other services of which shall be set by the board in accordance with state law.
- (5) Perform inspections and undertake enforcement as necessary to ensure compliance with this chapter.

### **13.20.020 Utility division.**

For the purpose of implementing the provisions and aims of this title, a Lewis County utility division within the Lewis County department of public works is hereby created and established consistent with RCW 36.94.120.

### **13.20.025 Applicability.**

The provisions of this chapter shall apply to all properties within the utility service area. No water or sewer service shall be extended beyond the service area boundaries as identified in a sewerage or water general plan without proper amendment of such utility service area.

#### **13.20.030 Utility review committee.**

Prior to any establishment, acquisition or construction of a public sewerage or water system, the adoption of a new, amended or revised sewerage or water general plan for that service area is required. The board shall submit the document to a utility review committee with a membership consistent with RCW 36.94.050 for each service area, or create a utility review committee for the entire county. The utility review committee shall be set by board resolution. If the board rejects the sewerage or water general plan for that service area, then the utility review committee is deemed to be dissolved; otherwise the utility review committee shall continue in existence to review the amendments to the plan.

#### **13.20.040 Fees, charges, rates, deposits and normal working hours.**

Fees, charges, rates, deposits and normal working hours for water and sewer service shall be set by the board by resolution. All fees, charges, rates and deposits for installation, inspection, permits, connections, usage and other utility services shall be in accordance with the current Lewis County rate schedule as approved by the board.

The board may consider the following factors in establishing service rates and fees:

- (1) Differences in costs of service.
- (2) Differences in class of customers or service.
- (3) Quantity and quality of the treated sewage and delivered water.
- (4) Capital contributions made to the utility system.
- (5) Debt and outstanding loans of the utility system.
- (6) Composition of customer base.
- (7) Record of public health violations.
- (8) Complexity of the utility system.
- (9) Availability of utility resources.

#### **13.20.050 Liability.**

Pursuant to RCW 36.94.480, where Lewis County assumes responsibility for a water system that is not in compliance with state or federal requirements for public drinking water systems, Lewis County and its agents and employees are immune from lawsuits or causes of action based on noncompliance with state or federal requirements for public drinking water systems which predate the date of assuming responsibility and continue after the date of assuming responsibility, provided that the county has submitted and complying with a plan and schedule of improvements approved by the State Department of Health. This immunity shall expire on the earlier of the date the plan of improvements is completed or four years from

the date of assuming responsibility. This immunity does not apply to intentional injuries, fraud or bad faith.

### **13.20.060 Violations and appeals.**

#### **(1) General.**

- (a) An applicant's, property owner's, or customer's failure to comply with this title shall be cause for withholding or withdrawing approval of overall project plans, forfeiture of the financial guarantee submitted to the county, and non-acceptance of portions of the work.
- (b) The county utility division may require the applicant, customer or property owner to remove or replace illegal utilities and other items associated with this title that were not properly permitted. The county utility may perform the work at the property owner's or applicant's expense. The cost of such work shall be per LCC 13.10.010.
- (c) No connections shall be allowed to the county utility system until all conditions of approval are met.
- (d) Nothing contained herein supplants or replaces any greater penalty or other remedy provided under state or federal law.

#### **(2) Enforcement Actions.** The county shall have the authority to enforce this title as well as other referenced or pertinent regulations or specifications. The utility division will appoint project engineers, assistants, and inspectors as necessary to inspect the work and they will exercise such authority as the administrator may delegate.

#### **(3) Stop Work Orders.** Should the county become aware of conditions that invalidate the original design data used to obtain the permit or determine that the applicant or property owner is not complying with the conditions of the permit or approved plans, the county may revoke the original permit and order work stopped on the project. Examples of reasons why the county may order all or part of the permitted work stopped include but are not limited to the following:

- (a) Failure to comply with the conditions of the permit.
- (b) The permit was granted on the basis of erroneous or incomplete information submitted to the utility division.
- (c) The weather or weather-related conditions caused off-site or downstream drainage problems.
- (d) The work has created a condition that is a hazard to life, endangers property, or adversely affects the use or stability of the work.

#### **(4) Cease and Desist Orders.** The county may serve a cease and desist order for violations of this title. The order shall include the following:

- (a) Description of violation.
- (b) Effective date, such as immediately upon receipt by the person or entity to whom the order is directed.

(c) Compliance outcome such as failure to comply with terms of a cease and desist order can result in enforcement action including but not limited to issuance of a civil infraction citation.

(d) Corrective measures.

- (5) Civil Infraction. Any person or entity (including but not limited to a natural person, a firm, corporation, partnership, joint venture, limited liability corporation, limited liability partnership, or limited liability entity) violating any provisions of this title shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of not more than \$250.00 per violation or by imprisonment for not more than 90 days as set forth in Chapter 1.20 LCC. Each such person, or entity found guilty of a violation shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of any provision of this title is committed, continued or permitted by such person or entity, and shall be punished therefor.

#### **13.20.080 Severability.**

If any part of this title shall be found invalid, all other parts shall remain in effect.

### **Chapter 13.30 SERVICE**

#### **Sections:**

- 13.30.100 Application, review and approval.
- 13.30.110 Water meters.
- 13.30.120 Violation of utility regulations.
- 13.30.130 Water and sewer system extension requirements.
- 13.30.140 Service connections required within local improvement district.
- 13.30.200 Variance.
- 13.30.300 Easements.
- 13.30.400 Inspections - Required.
- 13.30.410 Right of entry.
- 13.30.500 Correction of unsafe conditions.
- 13.30.510 Unlawful discharges to county sewers.
- 13.30.600 Maintenance of utility systems.
- 13.30.700 Water conservation.
- 13.30.800 Interlocal agreements.



### **13.30.100 Application, review and approval.**

No person or entity may connect to, extend or alter the water or sewer system without making application to and receiving approval by the utility division. A complete application along with written approvals from the local community development authority for consistency with the local approved comprehensive plan, development regulations and applicable standards, written approval from the local building authority for the structure to be served, and any other information that may be required or requested by the utility division must be submitted to determine proposed water demands, cross connection control measures and other potential impacts to the water or sewer system. If the administrator determines that the proposed action complies with the regulations of this chapter, the utility division will approve the application with any conditions necessary and proper to accomplish the purposes of this chapter. The utility division shall not approve any application for water service unless a satisfactory water main exists, capable of meeting the requirements for pressure, circulation, storage, source of supply, conveyance and other requirements established by the utility division. The utility division shall not approve any application for sewer service unless a satisfactory sewer main with adequate hydraulic and treatment exists, capable of meeting other requirements established by the utility division.

### **13.30.110 Water meters.**

All water services shall be metered. The utility system will deliver water to users only through meters owned by Lewis County, except temporary use of fire hydrants for construction, building or related purposes may be authorized by the administrator in accordance with this chapter.

Issuance of a water meter associated with new development of the system will be per LCC 13.60.100.

### **13.30.120 Violation of utility system regulations.**

Any person who connects to the utility system without obtaining the utility division's prior approval or who violates any section of this title shall be assessed a fine of \$250.00 per violation or by imprisonment for not more than 90 days as set forth in LCC 1.20.020, which shall be in addition to all other applicable charges and costs. The property owner shall be responsible for payment of all charges. Water and sewer service will be disconnected to the premises until the charges, fees and penalties are paid and any unauthorized installation is corrected and approved by the utility division.

### **13.30.130 Water and sewer system extension requirements.**

Requirements for water and sewer main extensions, oversizing mains and other improvements to the water and sewer systems are stated or referenced in Chapters 13.50, 13.60 and 13.70 of the Lewis County Code. All water and sewer system extensions and other system improvements shall upon completion and written acceptance by the administrator be conveyed to Lewis County and become part of the utility system.

### **13.30.140 Service connections required within service area**

Any person having a structure with plumbing fixtures within the boundaries of a county water or sewer service area as delineated in an approved utility system plan, LID or ULID shall be required to connect to the system within 60 days after receiving notice from the department to make such connection, or as specified in applicable LID or ULID ordinance. At the end of such 60-day period, the utility division shall begin assessing service charges regardless of whether the connection has been made.

### **13.30.145 Non-potable water sources within service area.**

Any applicant seeking to distinguish between potable and non-potable water uses on premises that have a non-potable water source must make a written request for a variance. The process applicable to that application is the process described in LCC 13.30.200.

The application shall not be approved unless it includes provisions for backflow prevention assemblies and other improvements to prevent cross-connection contamination of the potable water system per LCC 13.30.150. The applicant will be responsible for all review, construction, testing and associated costs to comply with the approval of the variance application.

### **13.30.150 Cross-connection Control Program.**

- (1) Purpose. The purpose of the Cross-connection Control Program (CCCP) is to protect the potable water system from any actual or potential physical connection of non-potable liquid, solid or gas that could contaminate the potable water system by backflow. If the utility determines that a cross-connection potential exists, no water service shall be allowed from the utility water system until approval from the administrator and the Cross-connection Control Specialist (CCS) that the connection is protected with an appropriate backflow assembly.
- (2) Adoption of State Regulations. The CCS shall develop the CCCP for the utility in accordance with WAC 246-290-490, WAC 246-292 and current references as approved by DOH.
- (3) Backflow prevention assembly requirement. Backflow prevention assemblies approved for use by DOH shall be installed at the discretion of the utility division for the following circumstances:
  - premises and services identified in WAC 246-290-490 as severe and high health hazards;
  - premises and services identified as special plumbing and activities in the CCCP for the utility system;
  - internal cross connections that are not correctable or where or when it is impracticable to ascertain whether cross connections exist;
  - where there is usage of toxic or hazardous materials such that, if back siphonage or back pressure should occur, a health hazard could result;
  - irrigation systems;
  - properties with an unapproved auxiliary water supply interconnected with the utility water system;
  - properties with wells that have not been legally abandoned or where the property owner or applicant wants to connect to the utility water system;
  - premises served by a fire system using chemical additives;
  - premises which pose a high probability of changes in the use of water by tenants;
  - premises where cross-connections are probable, unavoidable or not correctable, such as buildings served with booster pump systems; and
  - where the property owner or applicant is seeking a variance pursuant to LCC 13.30.200.
- (4) Installation requirement. Backflow prevention assemblies shall be installed as follows: by a licensed plumber in accordance with WAC 246-290-490; on the customer line just inside of the customer's property line and in a location acceptable to the utility division; at the point of delivery of the potable water supply, before any branch of the customer line; protected from freezing and if possible, water inundation; and in compliance with applicable plumbing requirements.

- (5) **Testing and repairs.** All backflow assemblies installed, relocated or repaired within the service area shall be tested immediately upon installation and at least annually by a state certified backflow assembly tester (BAT) in good standing. To be in good standing, the BAT shall supply the utility division with a current certificate of accuracy for his or her testing equipment and a current BAT certificate. The test period interval will be as specified by the CSS or Administrator; but shall not be less frequently than annually. Test results shall be reported to the CSS by the BAT within one week of the date of testing.

All such assemblies not functioning properly shall be immediately repaired or replaced by the customer. If any such assembly is not immediately repaired or replaced, then the utility division may deny or discontinue utility service to the premises. All testing and repairs are the responsibility of the property owner.

- (6) **Notification.** The utility division will notify the customer that an annual test of the backflow prevention assembly is required not less than 30 days before such annual test is required. Non-compliance on the part of the customer will result in termination of service.
- (7) **Costs of Compliance.** All costs associated with purchase, installation, testing, replacement, maintenance, parts and repairs of the backflow assembly are the responsibility of the property owner.
- (8) **Approval of Cross-connection Control Program.** Approval of the utility CCCP shall be by resolution for the service area.

#### **13.30.200 Variance.**

Any applicant may seek a variance in the application of the provisions of these regulations based on extraordinary conditions of topography, access, location, shape, size or other physical features of the property. The request for a variance shall be in writing and shall include a detailed statement of the technical aspects of the project that necessitate the need for a variance. A variance from design requirements will not be approved solely on the basis of financial considerations or convenience.

The applicant shall be responsible for all costs incurred in the review of the variance request regardless of whether the variance request is approved or denied. The minimum fee to process and review the variance request shall be the current approved fee applicable to Public Works deviation requests. Additional costs may include: review by utility division personnel, local, state and federal agencies; compliance measures for LCC 13.30.150; and required documentation and approvals by local, state and federal agencies. No variance will be approved that would have the effect of granting a special privilege not shared by other similar properties. The administrator will determine if the following conditions to approval have been met:

- (1) There are exceptional or extraordinary conditions that apply to the project property and not to other properties in the vicinity.
- (2) The approval will not adversely affect the health or safety of persons residing or working in the neighborhood, be detrimental to the public welfare, be injurious to property or improvements in the area, or be inconsistent with the comprehensive plan.
- (3) The approval is consistent with other chapters of the county code and county programs.
- (4) The approval for a material item or method is substantially equivalent to prescribed materials and methods.

### **13.30.300 Easements.**

The utility division may require any person or entity seeking to connect to the utility system to provide an easement for utility system purposes as a condition to allowing such connection. Easement widths will typically be 20 feet. Construction easements will be a minimum of 30 feet including the permanent easement. Under special circumstances, the administrator or designee may require alternate easement widths.

### **13.30.400 Inspections - Required.**

As a condition to the issuance of any permit or authorization by the utility division, each applicant shall consent to reasonable inspections by the utility division to ensure the provision of safe drinking water.

### **13.30.410 Right of entry.**

Whenever the utility division determines that it is necessary to make an inspection to enforce any of the provisions of or perform any duty imposed by this title or other applicable health and safety law, the administrator is authorized to enter such property at any reasonable time to inspect the site and to perform any duty imposed by this chapter. The administrator shall first make reasonable efforts to contact the person responsible for the premises and shall present proper credentials to such person, and request entry onto the premises. If entry is refused, the administrator shall have recourse to every remedy provided by law to secure entry. In the event of an emergency, the administrator is authorized to enter the premises to inspect and to enforce this chapter without first attempting to contact the person responsible for the property.

### **13.30.500 Correction of unsafe conditions.**

Whenever the administrator or designee determines that any condition on any premises is in violation, is used contrary to any provisions of this chapter, or is unsafe, the administrator or designee may order the correction or discontinuance of any such condition or activity causing such condition. The administrator or designee may take appropriate measures including the discontinuance of service to enforce any such order.

### **13.30.510 Unlawful discharges to county sewers.**

No person or entity shall discharge or cause to be discharged, by direct or indirect means, any of the following wastes or substances into any part of the sewer system:

- (1) Any rainwater from downspouts or other surface or subsurface drainage.
- (2) Any liquid or vapor having a temperature higher than 150 degrees Fahrenheit.
- (3) Any water or waste which may contain more than 100 parts per million by weight of fat, oil or grease.
- (4) Any gasoline, benzene, naphtha, fuel oil, grease, or flammable or explosive liquid, solid or gas.
- (5) Any ashes, cinders, sand, mud, straw, hair, shavings, metal, glass, rags, feathers, tar, plastic, wood, manure or other solid or viscous substance capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewer system.



- (6) Any waters or wastes having a pH lower than 5.5 or higher than 9.0 or having any other corrosive property capable of causing damage or hazard to structures, equipment and personnel of the sewer system.
- (7) Any waters or wastes containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals or create any hazard in the receiving waters of the sewer system.
- (8) Any waters or wastes containing suspended solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant.
- (9) Any noxious or malodorous gas or substance capable of creating a public nuisance.
- (10) Other discharges if determined to be incompatible with county's treatment system.

#### **13.30.600 Maintenance of utility systems.**

The responsibility of the utility division shall be limited to operation and management of water and sewer systems owned by the county, and it shall not have any responsibility with respect to private utility systems except on a contractual basis through a written agreement with the board.

#### **13.30.700 Water conservation program.**

The utility division may develop and administer any programs necessary to further water conservation or to comply with water conservation requirements of any local, state or federal agency having jurisdiction within the service area.

A Level I water supply problem may be declared at the discretion of the administrator. Voluntary water conservation measures may be requested by notice to and education of the customers about "nonessential uses" as defined in this section and in the water shortage response plan for the utility system.

A Level II water supply problem may be declared by the administrator when water usage exceeds the rate of resupply. Voluntary water conservation measures will be used including reduced or altered outdoor watering schedules.

A Level III water supply problem will be declared by the board when water supply fails to meet the demand for water and voluntary conservation measures are ineffective or are expected to be inadequate. The board's declaration will prohibit nonessential water uses as defined below, outdoor watering (except as authorized in writing by the administrator), and wasting potable water in any drainage way.

The following water uses are considered nonessential water uses: washing of any motorbike, motor vehicle, boat, trailer, airplane or other vehicle except at a commercial self-contained washing facility; hosing of any sidewalks, walkways, driveways, parking lots, tennis courts or other hard surfaced areas, buildings or structures; filling and refilling of any indoor or outdoor swimming and jacuzzi pools (except where authorized for neighborhood fire control or as required by a medical doctor's prescription); using water in a fountain or pool for aesthetic purposes (except where needed to support fish life); serving water to a customer in a restaurant unless requested by the customer; drawing water from hydrants for construction, fire drills, recreation and non-firefighting purposes; using water for dust control; and irrigating water for recreational fields, golf courses and grounds.

If the administrator determines that any customer failed to comply with the provisions pertaining to a Level III water emergency, then a written warning notice shall be delivered to the customer's residence or posted at the front entrance of the residence. If the customer fails to comply with the conditions stated in the notice, the administrator may authorize disconnection of the customer's water service. Service so disconnected shall be restored only upon compliance with the applicable conditions stated in the notice, payment to unlock or turn the meter on, payment of the service meter charge and other costs incurred in the discontinuance of service, and assurance that the action causing the discontinuance will not be repeated. Prior to restoration of service and if the administrator determines it is appropriate, the utility may install a flow restrictive device on the customer's service line at the customer's expense. The flow restrictive device will be removed at the expiration of the Level III water emergency, but may be removed earlier at the discretion of the administrator.

#### **13.30.800 Interlocal agreements.**

The administrator, with approval from the board, may enter into such agreements with local, state or federal agencies or jurisdictions as may be appropriate in administering the provisions of this title.

### **Chapter 13.40 LATECOMER UTILITY HOOKUPS**

#### **Sections:**

- 13.40.010 Purpose.
- 13.40.020 Application.
- 13.40.030 Application requirements – Fee.
- 13.40.040 Contents of agreement.
- 13.40.050 Eligibility of applicants.
- 13.40.060 Rights and nonliability of county.
- 13.40.070 Latecomer agreement benefit area.

#### **13.40.010 Purpose.**

To allow for a process by which any person or entity who pays the cost to install utilities within a public right-of-way may recover a pro rata share of the costs of construction from other persons or entities (latecomer) who benefit from those utilities at a later date.

The authority to establish latecomer agreements and benefit areas shall be consistent with the powers and authorities provided by Chapters 35.91 and 36.94 RCW.

#### **13.40.020 Application.**

Any person or entity using private funds to install water or sewer utilities, improvements or appurtenances costing more than \$10,000 within a public right-of-way may apply to the utility division for establishment of a latecomer agreement. The minimum expenditure level shall be adjusted annually effective on the first

day of the year through a percentage increase which shall not exceed the lesser of the percent change in the Consumer Price Index, All Cities, Urban Workers and Clerical Workers (CPI) as published by the U.S. Department of Labor for the 12 months ending the preceding September, or six percent.

#### **13.40.030 Application requirements – Fee.**

All applications for latecomer agreements shall be on forms approved and established by the administrator and shall be accompanied by a nonrefundable application fee to cover the utility system's expense in processing the application. This fee shall be as set forth in LCC Title 18.

#### **13.40.040 Contents of agreement.**

A latecomer agreement shall contain the following:

- (1) A legal description of the properties.
- (2) A legal description of the properties within the proposed latecomer agreement benefit area together with the name and address of the owners of each parcel as shown on the records of the Lewis County Assessor.
- (3) Map of the proposed latecomer agreement benefit area showing the location of the utility system improvements, properties contributing to the original cost of the utility system, and parcels benefiting from the utility system improvements.
- (4) Itemized cost of construction signed and dated by a professional engineer.
- (5) Method of calculating latecomer payments and proposed allocation of the cost of construction to the individual parcels in the proposed latecomer agreement benefit area.
- (6) Expiration date of latecomer agreement or conditions under which the latecomer agreement shall be terminated. The maximum term of the agreement shall not exceed 20 years according to RCW 35.91.020.
- (7) Identification of the recipient(s) of any latecomer payments, time period of payment, and disposition of any unclaimed funds.
- (8) Identification of ownership of utilities after installation and responsibility of maintenance and repair.
- (9) Any provisions, covenants or restrictions deemed appropriate by the utility division.

Within 30 days of receipt of the application, the utility division will provide the applicant written notice of whether the application is complete and, if incomplete, what must be done for the application to be considered complete. The applicant will have no more than 30 days from the date of the written notice to respond and provide the information required to complete the application, or a written explanation of why he or she cannot provide the information within the designated time period and a date by which the requested information will be submitted. The administrator may grant the applicant an extension of no more than 60 days to submit the required information. If the applicant fails to meet this deadline, the utility division may, in its discretion, reject the application as untimely.

#### **13.40.050 Eligibility of applicants.**

Applicants for latecomer agreements must be in compliance with all county ordinances, rules and regulations in order to submit an application for a latecomer agreement and to have that application processed.

#### **13.40.060 Rights and nonliability of county.**

The utility division reserves the right to refuse to enter into any latecomer agreement or to reject any application. All applications for latecomer agreements shall include an express waiver of any and all lawsuits and causes of action against Lewis County, its employees and agents, arising out of the establishment, enforcement or failure to enforce latecomer agreements. Lewis County, its employees and agents shall not be responsible for locating any beneficiary or survivor entitled to benefits by or through latecomer agreement. Any collected funds still unclaimed by the applicant more than three years after the expiration of the agreement shall be returned to the parties that made those payments to the county. Any remaining undeliverable funds shall inure to the benefit of the appropriate utility or other fund designated by the board.

#### **13.40.070 Latecomer agreement benefit area.**

The procedure to establish a latecomer agreement benefit area shall be as follows:

- (1) The utility division will formulate a latecomer agreement benefit area based upon a determination of which parcels did and did not contribute to the original cost of such utility system improvement and which parcels may subsequently benefit from connection to those utilities. Connection can be by tapping or discharging into the utilities and beneficial users shall include users connected to laterals or mains.
- (2) The preliminary determination of area boundaries and potential assessments along with a description of the property owners' rights and options shall be given by registered mail to all affected property owners of record within the proposed benefit area. Owners of record shall be as shown on the records of the Lewis County Assessor. If any property owner requests a hearing in writing within 20 days of the utility division's mailing of the preliminary determination, a hearing shall be held before the Lewis County Hearing Examiner. Notice of the hearing will be given to all affected property owners at least 10 calendar days in advance of the hearing. The Lewis County Hearing Examiner's ruling is final.
- (3) The latecomer agreement will be recorded at the applicant's expense at the Lewis County Auditor's office within 30 days of the final execution of the agreement. The agreement shall include notice of additional tap or connection charges as required in RCW 65.08.170. The applicant will pay for all recording fees and related expenses.
- (4) Once recorded, the latecomer agreement shall be binding on property owners of record within the assessment area.
- (5) The county will file a release with the auditor's office upon satisfaction of the latecomer's assessment.

### **Chapter 13.50 DESIGN GUIDELINES**



Sections:

13.50.100 Design and construction standards.

13.50.110 Standard specifications.

13.50.120 Plan format.

13.50.130 Submittal procedure.

13.50.140 Inspection.

13.50.150 Testing.

13.50.160 Bonding.

13.50.170 Emergency work policy.

**13.50.100 Design and construction standards.**

Water and sewer design and construction standards as contained within adopted sewerage and water general plans shall serve as the design standards for the applicable utility systems.

**13.50.110 Standard specifications.**

Design detail, materials and construction shall be in conformance with the most recent edition of the standard specifications.

**13.50.120 Plan format.**

All utility construction or reconstruction plans shall be prepared by and bear the stamp of a qualified professional civil engineer licensed in the state of Washington. Final plans and profile drawings must be approved by the county engineer prior to the start of construction.

**13.50.130 Submittal procedure.**

Plans, profiles, details and general notes shall be submitted in accordance with submittal procedures provided by the utility division.

**13.50.140 Inspection.**

All new utility work performed in the utility service area shall comply with the provisions of this chapter. Any revisions to construction plans must be approved by the administrator before being implemented. The contractor or applicant shall notify the utility division in advance of any authorized work. Other requirements before commencement of work include but are not limited to the following: a preconstruction meeting or field review, permits, paid inspection fees, legal access, traffic control, erosion and sediment control, and performance surety.

**13.50.150 Testing.**

All testing shall be performed at the contractor's or applicant's expense.

### **13.50.160 Bonding.**

Bonds or other allowable securities are required to guarantee the performance of and maintenance of new utility work by the contractor. The amount of the performance security shall be 125% (or such other percentage as currently used in Lewis County public works contracts) of the cost of the improvements. The cost of the improvement surety shall be determined by a professional engineer subject to the approval of the director. The amount of the maintenance surety bond shall be 25% of the cost of the constructed improvements, and shall be posted and maintained by the contractor for a period of one year from the date of acceptance by the director. The maintenance bond shall guarantee the constructed facilities against defects and failures in workmanship.

### **13.50.170 Emergency work policy.**

Should the work of a contractor result in an emergency road or utility shutdown during normal working hours, the direct overtime costs of responding county personnel shall be billed to and payment enforced against the responsible party.

## **Chapter 13.60 WATER**

### **Sections:**

<u>13.60.100</u>	General
<u>13.60.200</u>	Design Standards
<u>13.60.210</u>	Water Main
<u>13.60.220</u>	Hydrants
<u>13.60.230</u>	Valves
<u>13.60.240</u>	Casing
<u>13.60.250</u>	Air and Vacuum Release Valve
<u>13.60.260</u>	Blowoff Assembly
<u>13.60.270</u>	Backflow Prevention
<u>13.60.280</u>	Service Connection
<u>13.60.290</u>	Water and Sewer Main Crossings
<u>13.60.300</u>	Irrigation
<u>13.60.310</u>	Staking
<u>13.60.320</u>	Trench Excavation

<u>13.60.330</u>	Thrust Blocking
<u>13.60.340</u>	Backfilling
<u>13.60.350</u>	Street Patching and Restoration
<u>13.60.360</u>	Hydrostatic Tests
<u>13.60.370</u>	Sterilization and Flushing
<u>13.60.380</u>	Pump Station

### **13.60.100 General**

- (1) Any extension of the water system must be approved by the administrator. All extensions must meet or exceed the requirements of DOH, the utility water system plan and the local fire protection authority. It is the applicant's responsibility to ensure that adequate water for both domestic use and fire protection is available. Proposed analyses, documents and plans must show how water will be supplied, and whether adequate water pressure and volume will be maintained in case of fire. In his or her discretion, the administrator may require an analysis of the system at the applicant's expense if the administrator determines that the system may be inadequate.
- (2) Anyone desiring to extend or connect to the system must contact the utility and make application in accordance with LCC 13.30.100. After the completed application is submitted along with any other information required by the utility division and after project approval is obtained by the applicant from the local jurisdiction overseeing land development activities, the utility division will determine the costs to be paid by the applicant to connect to the water utility. Extensions and connections to the water utility outside of the water service area are permitted only when a demonstrated health risk exists and has been identified in writing by DOH and the applicable local health agency.
- (3) All utility construction or reconstruction plans shall be prepared by and bear the stamp of a qualified professional civil engineer licensed in the state of Washington. Final plans and profile drawings must be approved by the county engineer prior to the start of construction. A surety for performance will be required to guarantee the completion or maintenance of the required construction. The amount shall be in an amount equal to 125% (or such other percentage as currently required in Lewis County public works contracts) of the cost of the improvements. The applicant is responsible to obtain all applicable permits and approvals before commencement of construction.
- (4) Publicly owned utilities are not permitted on private property unless a benefit to the utility system can be demonstrated. Where public utilities are permitted to cross private lands, an easement must be granted to the utility. All easements must be prepared by a land surveyor licensed in the state of Washington capable to perform such work. Utility easements must be at least 20 feet in width. Easements shall be submitted in draft form for review and approval by the utility division prior to approval of construction plans. All costs to prepare and record the easement will be borne by the party requesting the extension or improvement.
- (5) Before any water meters will be installed for service, the following requirements for water system improvements must be met: approval and acceptance of the improvements by the administrator; satisfactory testing and sterilization of the improvements; certification of completion of the improvements by a qualified professional civil engineer licensed by the state of Washington overseeing construction; submission of complete as-built plans; provision of adequate surety for

performance; proper certifications of all backflow assembly tests per LCC 13.30.150; granting and recording of proper public right-of-way; payment of all applicable fees; written final project approval from the local jurisdiction overseeing land development activities; and written approval by the local building authority.

- (6) The Lewis County Engineer is authorized to amend the Standard Plans in this chapter as deemed necessary and appropriate.

### **13.60.200 Design Standards**

- (1) Water and sewer design and construction standards apply in the following order of priority: as contained within current, adopted sewerage and water general plans; Chapter 13.60 LCC; and in the most recent edition of the standard specifications. In the event of a conflict, the administrator shall determine the appropriate design and construction standards to use.
- (2) The pipe arrangement of the improvements shall provide for future continuation, extend through the extremes of the property for loop closures and create a looping of the existing system.
- (3) The general notes that follow must be included on all plans pertaining to water systems.

#### **GENERAL NOTES (Water Main Installation)**

1. All workmanship and material shall be in accordance with Lewis County standards and the most current copy of the State of Washington Specifications for Road, Bridge and Municipal Construction, as published by the Washington State Department of Transportation, American Water Works Association (AWWA) Standards and Washington State Department of Health (DOH) regulations.
2. A preconstruction meeting will be held with the contractor, applicant's engineer, a utility inspector, a representative of the utility division, a representative of the Engineering Division of the Public Works department, and the affected parties before the start of construction.
3. All water lines 8-inches in diameter and larger shall be ductile iron, thickness class 52, rated working pressure of 350 psi conforming to AWWA C151, cement mortar lined conforming to AWWA C104 and push on joints conforming to AWWA C111. Water mains of 4-inches and 6-inches in diameter shall be PVC C-900 class 200. No solvent weld joint pipe is allowed.
4. Fittings shall be ductile iron compact fittings conforming to AWWA C153, C110 or C111. All fittings will be cement mortar lined conforming to AWWA C104. Plain end fittings will be ductile iron if mechanical joint retainer glands are installed on the plain ends. All fittings will be connected by flanges or mechanical joints. If required by the administrator, megalug retainer glands and pipe restraint systems shall be required. These restraint systems shall be as manufactured by Romac Industries, EBAA Iron Inc. or such other equivalent restraint systems as specifically and expressly approved in writing by the Lewis County Engineer.
5. Gate valves will be resilient wedge, NRS (non-rising stem) with O-ring seals. Valve ends will be mechanical joint or ANSI flanges. Valves will conform to AWWA 509-80. Valves shall be Mueller, M&H, Kennedy or Clow. Existing valves and all valves installed directly to and connected to a portion of the active water system are to be operated by utility division personnel only.
6. The contractor will timely provide approved traffic control plans in accordance with the "Manual on Uniform Traffic Control Devices" (MUTCD). Traffic control plans must be approved by the agency administering the affected right of ways.



7. The contractor will keep copies of all approved permits and approvals for water main construction on site.
8. All water mains will be staked for grades and alignment by the design engineer or a licensed land surveyor. All vertical control shall be established to be consistent with the datum used by the water utility. Staking will be maintained throughout construction.
9. All water system connections serving buildings or properties with domestic potable water, fire sprinkler or irrigation systems must comply with the minimum backflow prevention requirements established by DOH and the Cross-connection Control Program for the water utility.
10. The contractor must call Utilities Underground Location Center at 1-800-424-5555 a minimum of two business days before any excavations.
11. All pipes and services must be installed with continuous tracer tape and toning wire. Tracer tape will be placed 12 to 18 inches under the proposed finished subgrade. The marker will be of plastic, non-biodegradable, metal core or backing marked "WATER" that can be detected by a standard metal detector. Tape will be Terra Tape "D" or approved equal. Toning or tracing wire will be UL listed, type UF, 12-gauge solid coated copper wire. The wire shall be taped to the top of the pipe to prevent movement during backfilling, and laid loose enough to prevent stretching and damage before brought up and tied off at the valve operating nut, valve box or meter box. If the operating nut is not easily accessible from the ground surface, the wire will be tied off at the valve box so that the wire is easily accessible from the ground surface. Two (2) feet of slack will be provided to allow for connection to the locator.
12. A minimum cover of 30 inches and a maximum cover of 36 inches over the pipe shall be maintained at all times.
13. All steps of the testing, chlorination and sampling processes must be witnessed by the utility inspector.
14. All pipe and appurtenances shall be hydrostatically tested at 200 psi (min.) for two hours. A pressure drop greater than 5 psig shall constitute a failure and the pipe shall be retested. The contractor's pressure gage shall be certified for accuracy from a certified testing lab, a maximum of 6 months prior to the start date of construction.
15. Chlorination by means of tablets or powders (dry calcium hydrochlorite) placed in each length of pipe during installation is prohibited.
16. Where the water line crosses a sanitary sewer, the water line shall be above the sewer line with a separation of at least 18 inches between the invert of the water line and the crown of the sewer pipe. If these criteria cannot be met, then the sewer pipe shall be cased within ductile iron pipe for a distance of 10 ft on both sides of the water line.
17. All "long side services" shall be encased in 160 psi pipe and per the following schedule when crossing the right-of-way.
 

¾" Service	needs 1.5" diameter casing.
1" Service	needs 2" diameter casing.
1.5" Service	needs 3" diameter casing.
2" Service	needs 3" diameter casing.
18. The utility must be notified five (5) working days prior to scheduling a water system shutdown. Utility personnel will perform all water system shutdowns. When connections require field verification, the contractor will expose the connection points and have the fittings verified by the utility three (3) working days before the anticipated shutdown date. Shutdowns will not be permitted on Fridays, weekends or holidays without advance written approval from the administrator.

19. When connecting to an existing water line where a new valve is not to be installed, the existing valve must be pressure tested to these standards by the contractor prior to connection. If an existing valve fails the test, the contractor will make the necessary additional provisions to test the new main prior to connecting to the existing system or the contractor will install a new valve. New mains will not be connected to the existing system until all required tests have passed.

### **13.60.210 Water Main**

- (1) Water mains shall be sized to provide adequate domestic and fire flow at the required residual pressure. Fire flow requirements will be determined by the local fire protection authority. Notwithstanding the foregoing, the fire flow shall be no less than 750 gpm at 20 psi residual pressure or the applicable minimum fire flows in WAC 246-293-640.
- (2) The minimum water main size will be 6-inches in diameter where looped and 8-inches in diameter to the last fire hydrant where not looped. Larger sized mains may be required as identified by the water system plan or if determined necessary by the administrator to meet fire protection, domestic requirements or future service needs.
- (3) All mains that may be extended or looped must end with an approved, flanged gate valve and blind flange, thrust block and blowoff assembly.
- (4) All water lines 8-inches in diameter and larger shall be ductile iron, thickness class 52, rated working pressure of 350 psi conforming to AWWA C151 and cement mortar lined conforming to AWWA C104. All pipes will be joined using non-restrained joints that are rubber gasket, push-on type or mechanical joint, conforming to AWWA C111. Water mains shall be PVC C-900 class 200 for 4-inch and 6-inch diameter mains. No solvent weld joint pipe is allowed.
- (5) All fittings shall be ductile iron compact fittings conforming to AWWA C153, C110 or C111. All fittings will be cement mortar lined conforming to AWWA C104. Plain end fittings will be ductile iron if mechanical joint retainer glands are installed on the plain ends. All fittings will be connected by flanges or mechanical joints. If directed by the administrator, mechanical joint restraint retainer glands and pipe restraint system shall be required. These restraint systems shall be as manufactured by Romac Industries, MEGALUG by EBAA Iron Inc. or such other equivalent restraint systems as specifically and expressly approved in writing by the Lewis County Engineer.
- (6) All pipes and services must be installed with continuous tracer tape and toning wire. Tracer tape will be placed 12 to 18 inches under the proposed finished subgrade. The marker will be of plastic, non-biodegradable, metal core or backing marked "WATER" that can be detected by a standard metal detector. Tape will be Terra Tape "D" or approved equal. Toning or tracing wire will be UL listed, type UF, 12-gauge solid coated copper wire. The wire shall be taped to the top of the pipe to prevent movement during backfilling, and laid loose enough to prevent stretching and damage before brought up and tied off at the valve operating nut, valve box or meter box. If the operating nut is not easily accessible from the ground surface, the wire will be tied off at the valve box so that the wire is easily accessible from the ground surface. Two (2) feet of slack will be provided to allow for connection to the locator.
- (7) The applicant's engineer will be responsible for determining the scope of work for connection to existing water mains. A minimum of five (5) working days' advance written notice is required to schedule shutdowns. Shutdowns cannot be scheduled until an application for utility service has been

approved and all applicable fees have been paid in full. The utility division will be consulted about required fittings and couplings. It is the contractor's responsibility to verify the location and depth of the existing main; obtain required fittings; and to furnish all materials, equipment and labor to make the connections to the existing main. The tapping of an existing water main shall be done in the presence of a utility inspector.

### **13.60.220 Hydrants**

- (1) The lead from the service main to the fire hydrant will be ductile iron cement mortar lined class 52, no less than 6 inches in diameter. A gate valve will be installed a minimum of three (3) feet from the hydrant unless otherwise approved in writing by the administrator.
- (2) Fire hydrants shall have two 2.5-inch hose connections, one 4.5-inch pumper connection, a removable Storz one-quarter turn adapter and blind cap attached to the pumper connection. The Storz adapter will include a cap. All threads shall be National Standard Thread. The hydrant will have a positive and automatic barrel drain, breakoff flange on the barrel, breakoff coupling for the stem and of the "safety" or breakaway style.

Hydrants shall be manufactured by Clow Corporation (Medallion), Mueller Centurion, M&H Reliant Style 929, or equal approved in writing by the Lewis County Engineer. All hydrants will be bagged and the connecting gate valves will remain closed until the system is tested and approved. Hydrants will be painted with high-grade enamel after installation in the color specified by the local fire authority agency.

- (3) The utility division will work with the local fire authority agency to determine hydrant spacing and placement to provide accessibility at all times for fire protection and maintenance. The utility will maintain hydrants that are owned by the utility system. Unless otherwise required by the local fire authority agency, the following guidelines shall apply for hydrants that are owned by the utility division:
  - At least one hydrant will be installed at all intersections.
  - Maximum hydrant spacing of 500 ft will be required for residential areas.
  - Maximum hydrant spacing of 300 ft will be required for non-residential areas.
  - The spacing distance for hydrants will be measured along the frontage and accessible side streets. When determining the sufficiency of existing hydrants, hydrants with flows that do not meet the requirements of LCC 13.60.210(1) will not be considered.
- (4) The utility division may require hydrants to be protected by two or more posts, 4-inches in diameter by 5 ft in height, of reinforced concrete or steel; or other protection as specified in writing by the administrator.
- (5) Fire hydrants that will belong to the utility must be constructed and tested prior to acceptance by the utility division.

### **13.60.230 Valves**

- (1) General. All valves and fittings will be ductile iron with ANSI flanges or mechanical joint ends. All existing valves are to be operated by utility personnel only.

- (2) Valves shall be installed in the distribution system at sufficient intervals to facilitate system repair and maintenance, but in no case less than one valve every 600 ft. Generally, there will be two (2) valves on each tee and three (3) valves on each cross. Specific requirements for valve spacing will be made at the plan review stage.
- (3) Gate valves will be used on all 2-inch to 12-inch diameter water lines. The design, materials and workmanship of all gate valves shall conform to the most recent AWWA C509-87. Gate valves will be resilient wedge non-rising stem (NRS) with two (2) internal O-ring seals. Gate valves shall be manufactured by Mueller, M&H, Kennedy or Clow.
- (4) Butterfly valves will be used on lines 14 inches in diameter and larger. Butterfly valves will conform to AWWA C504-87, class 150B with cast iron short body and O-ring stem seals. Butterfly valves shall be manufactured by Mueller, Pratt Groundhog, Kennedy or American Darling.
- (5) All valves shall have a standard Olympic Foundry 910 or 940 ductile iron water valve box, or equal approved in writing by the Lewis County Engineer. The valve box will be set to grade with a 6-inch ASTM 3034 SDR 35 PVC riser from valve to approximately six (6) inches from the valve box top. If valves are not set in a paved area, a three (3) foot by three (3) foot concrete pad four (4) inches thick will be set around each valve box at finished grade. If the valve box is positioned on the road shoulder, the ditch and shoulder shall be graded before placing the asphalt or concrete pad. All valve box components shall be H-20 rated, ductile iron, anti-kickout lids, and marked with "WATER" or "W" on the lids.

#### **13.60.240 Casing**

Steel casing pipe shall be schedule 20 steel or equal approved in writing by the administrator. Casing pipe and pipe spacers will be sized for the pipe being installed with a minimum of three spacers per section of pipe. The casing pipe shall be sand-packed and sealed after the water pipe is installed according to the spacer manufacturer's recommendations.

#### **13.60.250 Air and Vacuum Release Valve**

Combination air release and vacuum valves (ARV) shall be APCO 140 series, Cla-Val series 36, Val-Matic or Crispin with stainless steel internal components and hardware. Installation shall be set at the high point of the line when required. Where possible, pipes are to be graded to prevent the need for an ARV. ARVs may not be required when services are in the area but the final determination will be made by the administrator.

#### **13.60.260 Blowoff Assembly**

If a fire hydrant is not located at the end of a dead end main, a blowoff assembly is required. On water mains that may be extended in the future, the valve that operates the blowoff assembly will be the same size as the main and provided with a concrete thrust block. The pressure rating for blowoff assemblies shall be two hundred (200) psi. Adequate drainage must be available for use of the assembly under operating conditions.

#### **13.60.270 Backflow Prevention**

- (1) All water service connections to serve buildings with domestic potable water, fire suppression, private well, on-site irrigation or other potential backflow hazards shall comply with the backflow requirements established by DOH, WAC 246-290 and the utility.

- (2) All backflow prevention assemblies installed must be of a type and model preapproved in writing by DOH or the utility division, and constructed in accordance with the Uniform Plumbing Code (UPC). The utility division may require additional premise protection when health hazards are known to exist.
- (3) All assemblies will be installed behind the utility's metering device, and within six (6) feet of the meter box or before any other use connection in order to protect the water distribution system.
- (4) All installed assemblies must be inspected and approved by a state certified Backflow Assembly Tester (BAT). The property owner shall submit the results of the initial and thereafter annual tests and inspections of all backflow prevention assemblies by a certified BAT to the utility division. All assemblies not passing a test must be repaired immediately.
- (5) All costs associated with purchase, construction, inspections, testing, replacement, maintenance, parts and repairs of a backflow prevention assembly are the responsibility of the property owner or customer.
- (6) Failure on the part of the water customer to correct all cross connections in accordance with Title 13 of the LCC, to test as required, or to bypass an assembly or air gap is sufficient cause for the immediate discontinuance of public water service to the premises.

#### **13.60.280 Service Connection**

- (1) When water service is desired for a parcel fronting an existing main and within the service area for capacity, but not served by an existing meter setter, an application for utility service must be completed and submitted to the utility division. Upon approval of the application and payment of all applicable fees, the utility division will tap the main and install the meter setter, box and meter.
- (2) The contractor shall give the department a minimum of five (5) working days' advance written notice of any planned connection to an existing pipeline. This includes all cut-ins and live taps. Notice is required so disruptions to existing services can be scheduled. The utility division will provide notice to affected customers 24 hours in advance of the water service interruption. The contractor shall make every effort to schedule water main construction with a minimum interruption of service. In all situations, the utility division shall determine scheduling of water main shutdowns.
- (3) All water services shall end within public right-of-way or easements. Shutoff valves shall be located behind the service meter box and constructed with a separate box on the edge or outside of the public right-of-way. All services, meter setters, shutoff valves and meter boxes shall be installed by the contractor. The utility division will install the meters.
- (4) Service lines will be 1-inch, 200 psi minimum working pressure, SDR 7 polyethylene pipe such as DriscoPlex 5100 Ultra-Line or equivalent product approved in writing by the Lewis County Engineer. Service lines shall be installed a minimum of 22.5° off the main. Tracer wire shall be 12-gauge copper with neoprene coating. Tracer wire shall be wrapped around the pipe from the main tap to the meter box with an exposed minimum length of 6 inches in the meter box.

Service saddles shall be ductile iron with double stainless steel straps as manufactured by Romac or equivalent product approved in writing by the Lewis County Engineer. All clamps shall have a rubber gasket.

Corporation stops shall be all U.S. brass with counterclockwise (cc) threads conforming to AWWA C800 unless using a service saddle. If using a service saddle, threads shall be Iron Pipe Threads (I.P.T). Corporation stops shall be manufactured by Ford or Mueller. Stainless steel inserts are required for all compression grip fittings.

Meter setters shall be no-lead, copper yoke types with ball valve, check valve and double purpose couplings as manufactured by Ford or Mueller.

Meter boxes shall be H20 rated with minimum exterior dimensions of 14-inch x 20-inch x 10-inch deep and ductile iron flip reader lids such as Fogtite no. 1, Fogtite B-9 or equivalent product approved in writing by the Lewis County Engineer.

- (5) Master meters or metering of service to more than one building shall be approved by the administrator, the local jurisdiction overseeing land development activities and/or local health department. An approved backflow prevention system must be installed in conjunction with any master meter in accordance with WAC 246-290-490 and LCC 13.30.150.

#### **13.60.290 Water and Sewer Main Crossings**

The contractor will maintain a minimum of 18 inches of vertical separation between sanitary sewers and water mains with the water main being at the highest elevation. If the minimum vertical separation cannot be met, then the standards for water-sewer separation in the Department of Ecology's Criteria for Sewage Works Design shall apply. The longest standard length of water pipe will be installed so that the joints will be equidistant from any sewer crossing. In cases where minimum separation cannot be maintained, it will be necessary to encase the sewer pipe in ductile iron pipe or concrete. No concrete will be installed unless directed by the administrator.

#### **13.60.300 Irrigation**

All irrigation systems shall be installed with a backflow prevention assembly approved in writing by DOH and the administrator. Irrigation sprinklers shall be situated so as to not wet any public street and sidewalk.

#### **13.60.310 Staking**

All surveying and staking will be performed by an engineering or surveying firm licensed by the State of Washington and capable of performing such work. A preconstruction meeting will be held with the county and the staking will be inspected by the county prior to construction. Staking shall be maintained throughout construction.

The minimum staking of water lines shall be as follows:

1. Stake centerline alignment every 25 ft (50 ft in tangent sections) with cuts and fills to the bottom of the trench maintaining the minimum required depth of cover over the pipe.
2. Stake locations of all fire hydrants, hydrant flange elevations, tees, water meters, meter setters and other fixtures within the cut or fill to finished grade.

#### **13.60.320 Trench Excavation**

- (1) Clearing and grubbing where required shall be performed within the public right-of-way or easement as permitted by the local jurisdiction. All debris resulting from clearing and grubbing must be disposed of by the owner or contractor in accordance with the terms of the applicable permits.
- (2) Trenches shall be excavated to the line and depth designated by the water utility to provide a minimum of 30 inches of cover over the water pipe. Except for unusual circumstances where approved by the water utility, the trench sides shall be excavated vertically and the trench width shall be excavated only to such widths necessary for adequate working space as allowed by the governing agency. The trench shall be kept free from water until pipe assembly is complete. Surface water will be diverted so as to not enter the trench. The contractor shall maintain sufficient pumping equipment on the job to ensure that these provisions are carried out. Pipe placed in the trench will be sealed with a watertight plug at the end of each day. More frequent use of a watertight plug may be as required by the water utility.
- (3) The contractor shall perform all excavation of every description and of whatever substance encountered including boulders, rocks, roots and other obstructions. All material will be entirely removed or cut out to the width of the trench and to a depth six (6) inches below water main grade. Where materials are removed from below water main grade, the trench shall be backfilled to grade with material satisfactory to the county and thoroughly compacted.
- (4) Trenching and shoring operations shall not proceed more than 100 ft in advance of pipe laying with approval of the water utility and shall be in conformance with the Washington Industrial Safety and Health Administration (WISHA) and Office of Safety and Health Administration (OSHA) safety standards. The contractor shall continuously maintain the presence of a "competent person" as defined by the Washington State Department of Labor and Industries (L&I) when any trench excavation and backfill work is being done at the project site.
- (5) The bottom of the trench shall be finished to grade with hand tools in such a manner that the pipe will have a bearing along the entire length of the barrel. The bell holds shall be excavated with hand tools to sufficient size to make up the joint.

#### **13.60.330 Thrust Blocking**

The location of all thrust blocking will be shown on plans. The concrete blocking mix shall be Class 3000 cast against undisturbed earth. A plastic barrier will be placed between all thrust blocks and fittings. MEGALUG restrainers, Romac retainers or restraining rods shall be used in lieu or with thrust blocks.

#### **13.60.340 Backfilling**

Backfilling will not commence until the pipe installation has been inspected and approved by a water utility inspector. Backfilling and surface restoration will follow construction of the pipe so that not more than 100 ft is left exposed during construction hours without approval of the utility division.

Selected bedding material conforming to WSDOT Standard Specifications will be placed and compacted around and under the water mains by hand tools to a height of six inches above the top of the main. The remaining backfill shall be compacted to 95% of the maximum density in travel, paved and shoulder areas, and 85% in unpaved, non-travel areas.

Backfill and compaction shall be completed to the satisfaction of the jurisdiction over the public right of way. If suitable backfill material is not available from the trenching operations, select bedding or gravel



base conforming to WSDOT Standard Specifications may be used. At the conclusion of each day the trench shall be totally backfilled or steel plated so that no open excavation is left overnight.

#### **13.60.350 Street Patching and Restoration**

Street patching and restoration shall be completed to the satisfaction of the local government with jurisdiction over the roadways.

#### **13.60.360 Hydrostatic Tests**

- (1) Prior to the acceptance of work, the contractor shall conduct a hydrostatic pressure test on the installation. All labor, water, pumps, gauges, plugs, saddles, corporation stops, hoses, chemicals, measuring equipment and incidentals necessary to perform the test will be furnished and operated by the contractor. The contractor's pressure gauge shall be certified for accuracy from a certified testing lab, a maximum of six (6) months prior to the first start date of construction. The contractor will pay for all water needed for testing at the current rates charged by the utility division. Hydrostatic and bacteriological tests will be conducted after all connections along the section to be tested have been made, underground utilities are installed and the roadway section is constructed to subgrade.
- (2) Only utility division authorized personnel shall operate isolation valves. All tests will be made with the hydrant auxiliary gate valves open and pressure against the hydrant valve. After the test has been completed, each gate valve will be tested individually by closing each in turn and relieving the pressure beyond. This test will be acceptable if there is no immediate loss of pressure on the gauge when the pressure comes against the valve being tested. The contractor will verify that the pressure across the valve does not exceed the rated working pressure of the valve.
- (3) The section of main to be tested shall be filled with water at a velocity no greater than 1 ft/sec and allowed to stand under pressure for a sufficient length of time to allow air to escape and the pipe lining to absorb water.
- (4) The utility division shall be present to witness the test after all air in the main has been released. The test will be accomplished by pumping the main up to 150 psi above the normal operating pressure but not less than 200 psi. After reaching the test pressure, the pump will be stopped for 15 minutes and then the pressure will be brought back up to the test pressure again. Test pressure shall be maintained for two hours. A pressure drop greater than 5 psig shall constitute a failure and the system shall be retested.
- (5) Defective material or workmanship discovered during a hydrostatic field test will be replaced by the contractor at no expense to the utility division. Hydrostatic tests will be made by the contractor until a satisfactory test is obtained.

#### **13.60.370 Sterilization and Flushing**

- (1) Sterilization of water mains shall be accomplished by the contractor in accordance with the requirements of DOH and current AWWA standards, and in a manner satisfactory to the utility division.
- (2) The contractor is responsible for all costs in this section, retesting and associated work to comply with sterilization and flushing.

- (3) Chlorination by means of tablets or powders such as dry calcium hypochlorite placed in each length of pipe during installation is prohibited.
- (4) The contractor shall prepare a plan for disposal of treated water prior to performing any disinfection. At no time shall treated water from a new main be disposed directly into any water course or natural drainage channel. Sodium ascorbate or other approved chemical shall be used as the neutralizing agent if dechlorination is used. Sodium thiosulfate shall be not be used. Written permission from the sewer agency shall be obtained before disposal to the sanitary sewer is allowed.
- (5) Following a successful hydrostatic test, the water main not connected to the existing system shall be relieved of excess pressure and the main left full of the proper chlorine concentration. The line shall be left undisturbed for at least 24 hours but not more than 48 hours before starting the flushing process. Flush thoroughly and as soon as possible after the 24-hour period to minimize prolonged exposure of the pipe to high concentrations of chlorine. The contractor shall flush until the chlorine level in the water leaving the new main is no higher than the distribution system or that level acceptable for domestic use.
- (6) The contractor shall take water samples in the presence of utility division inspector at least 24 hours after flushing and disinfecting. Should the initial chlorine treatment result in an unsatisfactory bacteriological test, the procedure must be repeated by the contractor until satisfactory results are obtained.

#### **13.60.380 Pump Station**

When a pump station is required to provide the necessary flows for a new development, the applicant shall construct and bear all costs of the pump station, provide training and instructional manuals to the utility division, and associated documentation to the utility division to help maintain the pump station. The pump station shall be designed and certified by a professional engineer licensed by the state of Washington in civil engineering.

### **Chapter 13.70 SEWER**

(Reserved)

### **Chapter 13.80 WATER AND SEWER SERVICE CONNECTIONS**

Sections:

- 13.80.100 Conditions of utility service.
- 13.80.200 Costs of meter installation.
- 13.80.300 Customer deposit.
- 13.80.400 Customer charges.
- 13.80.410 Turn-on and shut-off charges.

- 13.80.420 Temporary shut-off charges.
- 13.80.430 Service call charges.
- 13.80.440 Meter testing and service meter charges.
- 13.80.450 Water service user charges.
- 13.80.455 Use of fire protection facilities for other purposes charges.
- 13.80.460 Charges for low-income senior citizen customers.
- 13.80.470 Delinquent charges.
- 13.80.480 Overhead charges.
- 13.80.500 Method of billing and payment.

**13.80.100 Conditions of utility service.**

- (1) Accounts shall be in the name of the property owner. Rental tenants with accounts in their own names may retain their existing accounts in their names until their accounts are closed. The property owner may request to have duplicate bills mailed to a tenant, lessee or agent; however, this shall not relieve the property owner from liability for incurred charges. This request shall be made on the application form provided by the utility division.
- (2) Ownership of Water Lines.
  - (a) The utility division shall install, own and maintain water service lines from the main to and including the meter. Water service lines from the main to and including the meter box may be installed by the customer's contractor, subject to payment of fees, inspection and written approval by the water utility.
  - (b) The meter wherever feasible shall be placed within the public right-of-way as to be easily associated with the intended building, and within two feet of the edge of existing or proposed road surfacing, within two feet of the property line nearest the customer's premises, or as approved in writing by the administrator if there are unusual or conflicting conditions. The utility will record the location of the meter.
  - (c) For each residential service connection, the utility will install a one-inch corporation stop, service piping from the corporation stop to the service meter, a three-fourths-inch-by-five-eighths-inch water meter, a meter stop, and meter box; and record the location. The connection to the utility's water main will extend at right angles from the main to the property line. One inch 200 psi or greater pipe shall be placed two feet (minimum) below grade, and three feet (minimum) below grade at the street or alley crossings.
  - (d) Customer lines from the meter to the premises shall be installed, owned and maintained by the customer.
- (3) Individual Service Required. Each service line or sewer lateral shall be connected to only one residence, building, and customer as practicable; and the parcel so supplied shall not supply water to

any other properties. Property owners of multifamily buildings or multiple dwellings may use a single connection with the written approval of the administrator.

- (4) Installation on Private Property. Service lines and meters shall not be installed on private property unless the utility division finds that service cannot be practically provided, in which case an easement shall be granted to the water utility from the property owner.
- (5) Charge for Installation of Larger Service Line or Relocation of Existing Service Line. The customer will complete an application form and pay the fees and applicable costs to install a larger service line and meter, or to relocate an existing service line.
- (6) Backflow Prevention Requirements. All water service connections serving buildings or properties with domestic potable water, fire sprinkler or irrigation systems will comply with the minimum backflow prevention requirements established by DOH. Backflow assembly testers (BAT) shall supply the water utility with documentation indicating that their testing equipment has a current certificate of accuracy and with a current DOH BAT certification card. The property owner shall be responsible for all testing and backflow prevention requirements in the CCCP.
- (7) Transferring Customer Line. Whenever a service line is realigned by the utility division, the customer shall immediately upon notice and at customer's expense transfer the customer line to the newly positioned service line.
- (8) Owner Is Responsible for Installation and Maintenance of Customer Lines and Sewer Laterals.
  - (a) Customer lines from the water service meter to the premises and the sewer lateral from the premises to the public sewer shall be installed, owned and maintained by the customer. Customer lines shall be constructed to avoid concrete surfaces, buildings and any obstructions, and with no joints beneath pavement areas.
  - (b) The customer shall be responsible for obtaining all building, right-of-way permits and use permits required for work on the premises and within the public rights-of-way.
  - (c) The utility division may reimburse the customer for the cost of the repair of that portion of the sewer lateral within the dedicated public right-of-way if damage to the sewer lateral was proved to be caused by the utility. Damages from natural disasters, root intrusion, and acts and omissions of the customer are excluded from claims to the utility division. The amount of the reimbursement from the utility division shall not exceed the cost for installation of a new sewer lateral from the main sewer to the property line. Claims must be made on approved forms by the utility division. The administrator shall investigate all submitted claims, and determine the validity and amount of reimbursement in writing.
- (9) Specifications for Customer Lines and Sewer Laterals.
  - (a) All customer lines shall have a two (2) feet minimum cover depth above the line, and equipped with an approved backflow prevention device or check valve, and a readily accessible ball or wheel valve between the meter box and the building so that the customer may at any time shut off water to the premises. Customer lines larger than one-inch in diameter shall be equipped with an accessible gate valve complete with hand wheel, check valve and utility box rated HS-20 to withstand vehicle traffic or as approved by the utility division; and may require a backflow prevention assembly and compliance with LCC 13.30.150. Water service shall not start until these appurtenances are installed and approved by the local building authority.

- (b) All sewer laterals shall be installed in accordance with the utility division's sewerage general plan. Each sewer lateral shall be provided with a cleanout to within six (6) inches of finished grade at the property line or not to exceed 30 feet from the property line with an easement granted to the utility from the property owner.
- (10) Installation of Service Lines and Sewer Laterals. All installations within the public rights-of-way including obtainment of permits and approvals for the work shall be performed by a state licensed contractor in good standing per Section 1-02 Standard Specification or as approved by the administrator in writing. No service lines crossing paved streets shall be surface trenched, nor shall the paved road surface be damaged in any way.
- (11) Liability for Leakage or Stoppage. The utility division is not responsible for any partial or complete stoppage, leakage or damage to any customer's pipelines, fixtures, sewer laterals, plumbing, premises and contents.
- (12) Termination of Service. Sufficient causes to terminate service are: delinquency and nonpayment of water service; finding by the utility division of actual or potential connections, actions or non-compliance with utility requirements that could contaminate the water system by backflow or impact the utility's ability to provide safe and reliable drinking water; and finding by the appropriate authorities of an unsafe, dangerous to human life or of a building unfit for human habitation. Water service shall be restored when the property owner has fully paid the delinquent utility bill and any associated fees, and secured a release or clearance from said authorities.
- (13) Authority to Disconnect. The utility division shall have the right to shut off the supply of water whenever it is necessary to make repairs, improvements, enforce rules, or for any operating reason. Reasonable notices will be given to customers, except in emergency shut-off situations.
- (14) Dangerous and Defective Customer Equipment. Water for steam boilers and other industrial use involving possible danger to the system will not be furnished by direct pressure from the water mains. The utility division has the right to refuse water service or to discontinue water service without notice to any customer upon finding any apparatus and operations which will be detrimental to the water system. Standpipes, fire hydrants, gate valves or other equipment that cause water hammer or any danger to the water system shall be immediately repaired or removed upon notice from the utility division.
- (15) Liability for Damage. The customer shall be responsible for and pay for any damages to the water system and water service line appurtenances owned by the utility division.
- (16) Tampering with Equipment and Fire Hydrants. It shall be a violation of this title for any person other than authorized personnel of the utility division or the fire department to operate, alter, change, remove, disconnect, connect with, interfere, or attempt to interfere in any manner with any part of the water system owned by the utility division including fire hydrants.
- (17) Unauthorized Use of Water. It shall be a violation of this title for any person making and breaking any connection to the water system to obtain water without paying the just charges. The utility division shall have the authority to shut off water to the premises, and to collect all charges due for water properly and improperly obtained and all incurred costs by the utility division. If the improper connection is on public right-of-way, the utility division will make the necessary changes, removals or repairs. If the improper connection is on private property, the property owner shall do the directed work immediately upon demand.

- (18) **Utility Access.** The utility division shall have access to water service meters, valves, hydrants and other facilities owned by the utility division at all times. A three-foot clear radius from the utility structure must be maintained at all meter and valve boxes, vaults and above ground structures. Access to fire hydrants shall never be blocked. Obstruction of the utility division's structures is not permitted, and the utility division shall disconnect service to the premises if the customer does not remove the obstruction.

#### **13.80.200 Costs of meter installation.**

- (1) The costs of installation to the utility system shall be based on the service and/or meter sizes.
- (2) These costs shall include installation where open cutting or conventional boring methods and direct burial of the service lines are not permitted. Where special conditions exist or special approvals and permit fees are required, all costs and fees associated with such restrictions, and any special conditions, shall be added to the above installation costs.
- (3) Where it is necessary to open cut paved roadway, cross under a sidewalk, or an improved area between the curb and the property line to install the service, the customer shall also be charged the costs necessary to restore the disturbed roadway, sidewalk, or improved area to its original condition or better condition. Such costs for restoration shall include time and materials plus overhead charges.
- (4) For water service 1-inch and larger, the costs of the installation will be based on the actual cost of the meter, materials, labor, and equipment, plus overhead charges. The customer requesting a service larger than 1-inch shall pay a deposit in an amount of 125% or the current percentage used in county public works contracts of the administrator's estimate of the cost for construction work and the work shall thereafter be billed on the basis of actual cost difference from the estimated cost, including overhead.

#### **13.80.300 Customer deposit.**

- (1) A deposit shall be paid by each water customer at the time of application for a service connection or a service account. The deposit paid by each customer shall be refunded to the person paying the deposit when the account is closed, providing there is no unpaid balance in the account. Lewis County may apply all or part of the deposit to any unpaid balance and charges.
- (2) Any deposit remainder unable to be refunded to the customer when the account is closed shall be held by Lewis County for a period of one year from the date of account closure. If demand is not made upon Lewis County for refund of the deposit by the customer within the period of one year after the account is closed out, the amount of the deposit remaining shall be deemed to be unclaimed property and shall pass to the State of Washington Department of Revenue, in accordance with the mandates of the Uniform Unclaimed Property Act of 1983, as it now exists or is hereafter amended.

#### **13.80.400 Customer charges.**

Customers receiving utility services shall be required to pay all charges, fees, deposits and other costs prior to any physical connection or installation of facilities. No service shall be delivered or provided until all such charges are paid. Such charges shall be nonrefundable.

#### **13.80.410 Meter-on charges.**

There shall be a charge for unlocking and turning on the water service meter during normal working hours and during non-normal working hours.

Water customers shall notify the utility division at least two working days before the date they desire water to be shut off or turned on. A meter fee will be charged when the water is turned back on.

Customers that shut off their own valves on their customer service lines will still incur water service usage charges.

#### **13.80.420 Short Term shutoff charges.**

Residential water customers desiring their water be shut off for a period up to one year may apply for a short term shutoff charge. The customer pays 75% of the base charges from the month of shutoff to the month of resumed service, and a meter-on charge upon resuming water service. Short term shutoff charges shall be determined according to LCC 13.80.450 and expire after one year from the month of shutoff. Customers will need to reapply.

#### **13.80.430 Service call charges.**

- (1) Service calls involving extraordinary and unusual time demands shall be charged to the customer requesting the service call at the cost of labor of each employee involved, including travel time, for service calls made during normal working hours of the utility division. The minimum charge for such service call during normal working hours shall be applied.
- (2) Service calls made on Saturdays, Sundays, holidays, or outside of the normal working hours of the utility division, Monday through Friday, shall be charged to the customer requesting the service call at the cost of labor of each employee involved, including travel time, mileage and costs at the overhead rate charge. The minimum charge for such service call during non-normal working hours shall be applied.

#### **13.80.440 Meter testing and service meter charges.**

- (1) Any person requesting a test of any water meter shall, at the time of request, deposit with Lewis County the amount to be charged for such test.
- (2) Meters two inches and smaller in size shall be tested off-site. Meters larger than two inches shall be tested in the field. After the deposit has been made and the test has been scheduled, the customer shall be notified of the date and time that the meter test is scheduled to take place. The customer shall have the option of being present when such test is made. In the event the test discloses an error of more than three percent of water consumed in favor of the utility division, the deposit and any service charges shall be refunded to the customer, the meter shall be corrected or an accurate meter shall be installed, and the customer's account shall be credited with the amount charged for the excess consumption on the three previous readings. When the test discloses an error of three percent or less, the amount deposited shall be retained by the utility division to cover the costs of such test.
- (3) There shall be a service meter charge for customer requested meters. This charge shall apply if the customer requests a replacement meter or a new meter for new service connection. This charge shall not apply if the utility division determines that the existing service meter is defective.
- (4) Any person requesting service on premises with no service meter shall pay the service meter charge.

#### **13.80.450 Water service user charges.**

Every water customer shall pay a base charge and usage charge per billing period as approved by resolution for the service area. Base charges for the first month of service shall be one-half of the base charge if service was approved on or after the 16<sup>th</sup> day of the month.

#### **13.80.452 Hydrant testing charges.**

There shall be a hydrant testing charge for flushing, general maintenance, testing of hydrant facility and operation of the hydrant as requested by the local fire department, special fire protection district, or owner of hydrant requesting utility operation of the hydrant. This charge shall apply for hydrants not owned by the utility division. Any repairs and associated work of the hydrant performed by the utility division will be at actual cost plus overhead.

#### **13.80.455 Use of fire protection facilities for other purposes charges.**

Whenever water is used from fire protection facilities, withdrawn for contractor water sales, or fire protection water is misused, such usages shall incur a flow meter charge, contractor base charge and contractor usage charge. The base charge for the first month of service shall be one-half of the contractor base charge if service was approved on or after the 16<sup>th</sup> day of the month. Any customer applying for water usage from fire protection facilities must establish a contractor customer account complete with all applicable fees and deposits at least two working days before water usage.

#### **13.80.460 Charges for Low-Income Customers**

- (1) The fixed rates for low-income senior citizen residential customers and low-income totally disabled residential customers shall be 50% of the residential base charge that would otherwise apply. All consumption charges shall be as for residential customers as set forth in this chapter.
- (2) All low-income senior citizen residential customers and low-income totally disabled residential customers applying for low-income senior citizen customer or totally disabled residential customer rates herein provided shall furnish a claim for exemption in such affidavit form as shall be prescribed by the administrator. Such form shall be furnished on or before January 31 of each year, within 30 days from the date of account opening, or unexpected sudden change of income status

#### **13.80.470 Delinquent charges.**

A delinquent charge shall be added to each unpaid bill if it is not paid by the due date. A door hanger charge shall be added to each unpaid bill if a door hanger for delinquency is made by utility personnel.

#### **13.80.480 Overhead charges.**

An overhead charge of the total costs for labor, materials, and equipment for work and services performed or installation of service water lines or other facilities by the utility division shall be added to the costs charged to the customer. Such overhead charge shall be to accommodate administration, supervision, and accounting costs. The overhead rate shall be as approved by resolution for the service area.

#### **13.80.500 Method of billing and payment.**

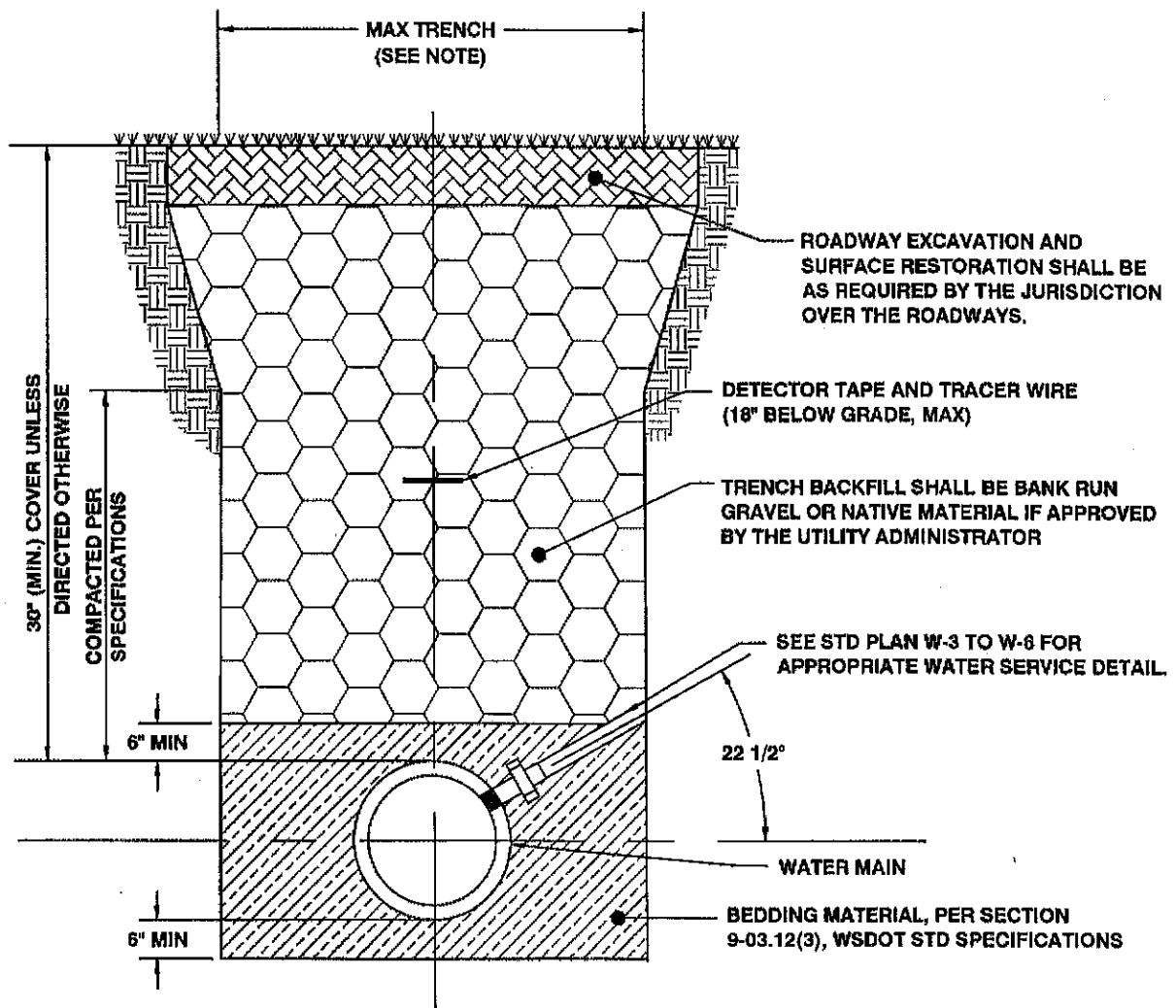
- (1) Billing Method and Due Date. Every two-month period the utility division shall read the water meters for each customer that is provided water service by the utility division on the first three working days



of the billing month. Bills shall be mailed by the tenth day of the billing month. Payment shall be due on the tenth day of the next month.

- (2) **Receipt of Payment.** The utility bill shall be paid in its entirety by the due date. Payment must be received by the close of business due date at: Lewis County, Fiscal Office, 351 NW North Street, Chehalis, WA 98532.
- (3) **Delinquent Payments.** Payments not paid in full by the close of business due date will be considered delinquent. All late notices issued by the county shall include a delinquent charge which must be paid in addition to the utility bill. The county will prepare a list of delinquent customers on the twelfth (12<sup>th</sup>) day of the month following the billing month. If the utility bill is still not paid in full, then utility division personnel will place a door hanger at the delinquent utility customer's premises by the thirteenth (13<sup>th</sup>) day of the month following the billing month. There will be a door hanging charge added on the utility bill.
- (4) **Shut Off Water Service.** If payment is not received in full within three (3) days from the date of the placed door hanger or by the sixteenth (16<sup>th</sup>) day of the month following the billing month, the utility division will immediately shut off the water service to such delinquent premises. Utility division personnel are not authorized to accept payment at the service address.
- (5) **Designated Dates.** If designated days fall on nonworking days or other approved closure days of the utility division, the next working day will be used for that designated day. Subsequent designated days will not be adjusted to account for prior designated days.
- (6) **Delinquent Payment Recovery.** All charges for water and sewer service when the account becomes delinquent and unpaid shall constitute a lien against the premises to which the service has been furnished. In the event an occupant of the premises moves to another location within a service area managed by the utility division and applies for utility service at the new location, services shall be denied at such new location until fees and charges for service at the first location are fully paid. All or part of the customer deposit may be applied to outstanding charges.

The utility division may record a lien in the office of the auditor of Lewis County against the property for which the service was connected or provided. Service meters shall be removed at these premises and future service to the property will depend on system availability. Such liens shall include all delinquent charges and costs incurred up to the removal of the service meter. The property owner shall be responsible for all cost incurred by the utility division, including reasonable attorney fees, for preparing and recording a lien and the court enforcement thereof.



#### NOTES:

1. MAXIMUM WIDTH OF TRENCH SHALL BE 1.5' PLUS 1.5 x PIPE I.D..
2. ALL MATERIALS, WORKMANSHIP AND INSTALLATION SHALL BE IN CONFORMANCE WITH THE MOST RECENT WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION (WSDOT STD SPECIFICATIONS) AS AMENDED BY THE UTILITY.
3. BEDDING SHALL BE COMPACTED TO 95% MAX. BACKFILL SHALL BE COMPACTED TO 85% IN UNPAVED AREAS AND 95% IN PAVED AND SHOULDER AREAS PER 2-03.3(14)D, WSDOT STD SPECIFICATIONS.

**DRAWING NOT TO SCALE**



## WATER MAIN TRENCH

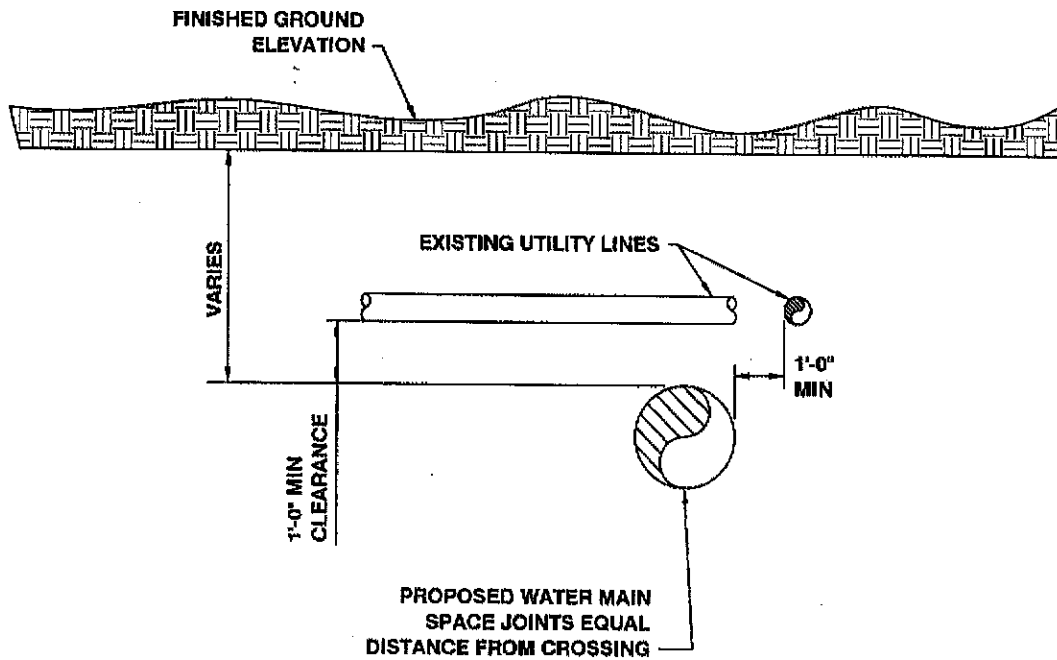
STD PLAN NO: W-1

APPROVED BY:

*[Signature]*  
Lewis County Engineer

REVISED DATE:

*2/8/16*



**NOTES:**

1. CONCRETE ENCASEMENT SHALL BE USED, IF APPROVED BY THE UTILITY ADMINISTRATOR, AT LOCALIZED UTILITY CROSSING IF MINIMUM PIPE SEPARATION (ELEVATION) CANNOT BE MAINTAINED.
2. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF EXISTING AND PROPOSED UTILITIES

**DRAWING NOT TO SCALE**



**TYPICAL WATER CROSSING**

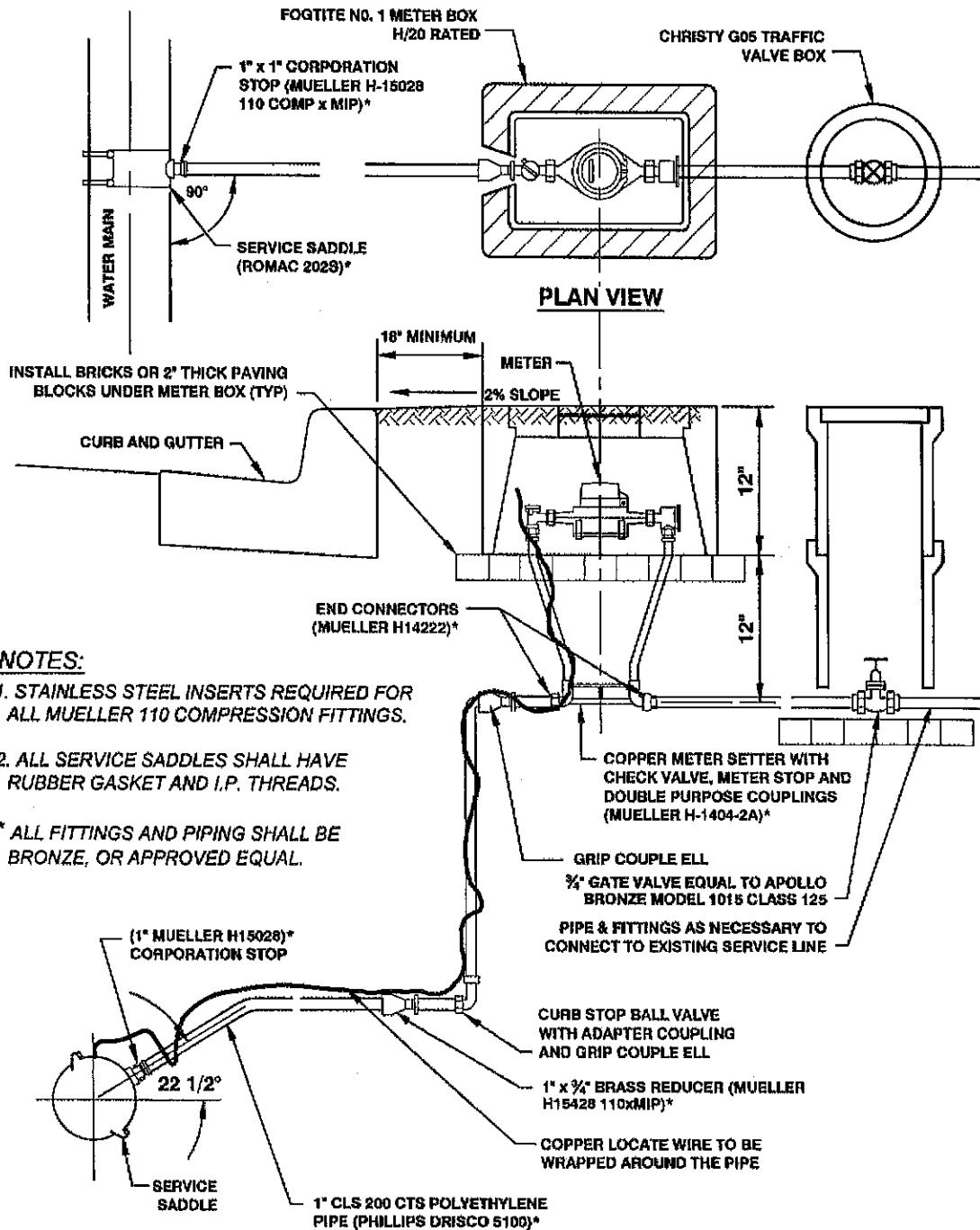
**STD PLAN NO: W-2**

**APPROVED BY:**

*[Signature]*  
Lewis County Engineer

**REVISED DATE:**

*2/8/16*



**DRAWING NOT TO SCALE**



## 3/4" AND 1" SINGLE METER SERVICE

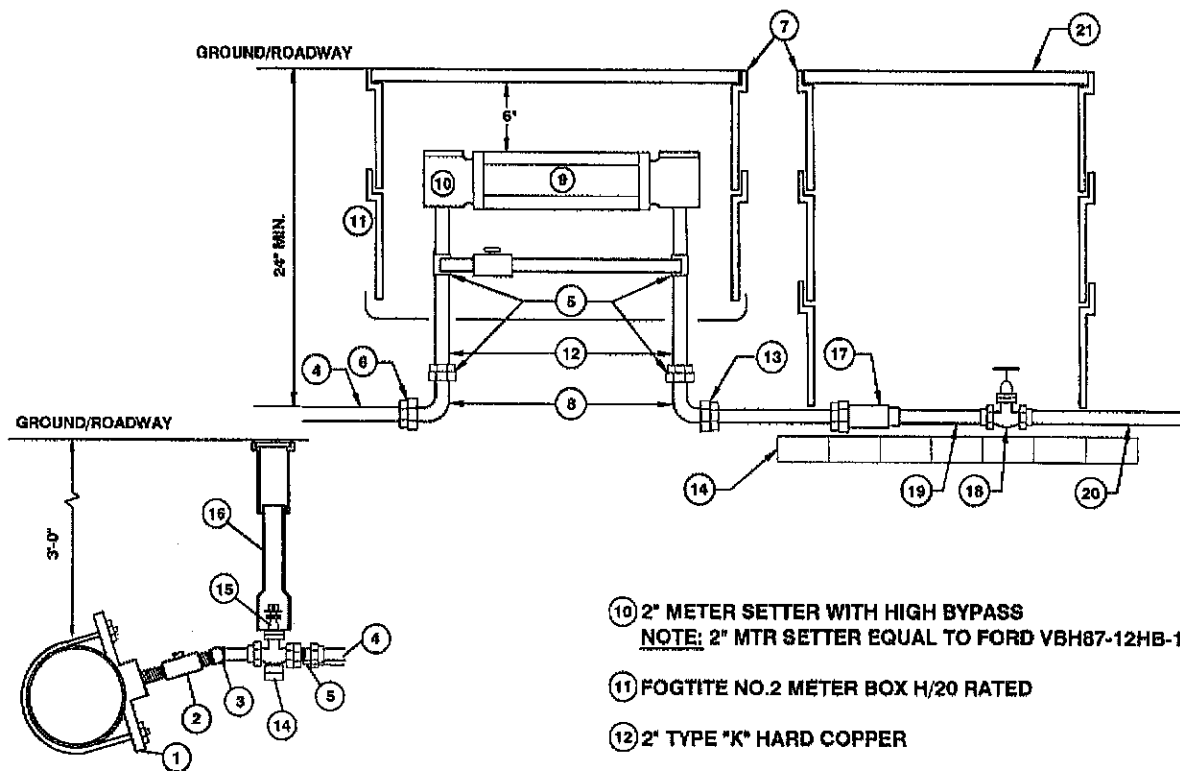
STD PLAN NO: W-3

APPROVED BY

*[Signature]*  
Lewis County Engineer

REVISED DATE:

2/8/10



- ① 2" (IP TAP) DOUBLE STRAP SADDLE EQUAL TO ROMAC STYLE 202S
- ② 2" BRASS IP BALL CORP
- ③ 2 - 2" BRASS STREET ELLS FOR SWING JOINT
- ④ COPPER TYPE K SOFT PIPE (2")
- ⑤ 2" MIPT X CTS GRIP FITTING
- ⑥ 2" FIPT X CTS GRIP FITTING
- ⑦ CONTRACTOR SHALL INSTALL METER BOXES SO THAT THERE IS AT LEAST 6" OF SEPARATION TOP EDGE TO TOP EDGE
- ⑧ 2" BRASS ST ELL
- ⑨ METER SPACER TO BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. SPACER MUST HAVE A MINIMUM OF 8 - 1/4" HOLES DRILLED IN SPACER BODY.

**NOTE:** COUNTY TO SUPPLY 1-1/2" OR 2" METER AS REQUESTED BY PROPERTY OWNER. IF 1-1/2" METER IS USED COUNTY WILL SUPPLY REDUCERS TO CONNECT METER.

- ⑩ 2" METER SETTER WITH HIGH BYPASS  
**NOTE:** 2" MTR SETTER EQUAL TO FORD VBH87-12HB-1177
- ⑪ FOGTITE NO.2 METER BOX H/20 RATED
- ⑫ 2" TYPE "K" HARD COPPER
- ⑬ SCHEDULE 40 2" PVC CAP REMOVED WHEN CONNECTION MADE TO CUSTOMER
- ⑭ 4"X4"X8" CONCRETE BLOCK SUPPORTS
- ⑮ 2" RESILIENT WEDGE GATE VALVE (FIP X FIP) WITH 2" AWWA OPERATING NUT
- ⑯ 2 PIECE VALVE BOX
- ⑰ APOLLO BRONZE MODEL CVBE SOFT SEAT CHECK VALVE (61-500/600 SERIES) THDXTHD OR EQUAL
- ⑱ 2" GV EQUAL TO APOLLO BRONZE MODEL 1015 CLASS 125
- ⑲ 2" BRASS SPOOL, LTF
- ⑳ PIPE AND FITTINGS NECESSARY TO CONNECT TO EXISTING SERVICE LINE
- ㉑ FOGTITE NO.1 METER BOX H/20 RATED

**NOTES:**

1. 2" METER SETTER EQUAL TO: VBH87-12HB-1177 FOR EXISTING SERVICE
2. SERVICE TAP TO MAIN SHALL BE ANGLED AND NOT EXCEED 22 DEGREES

**DRAWING NOT TO SCALE**



**2" WATER SERVICE**

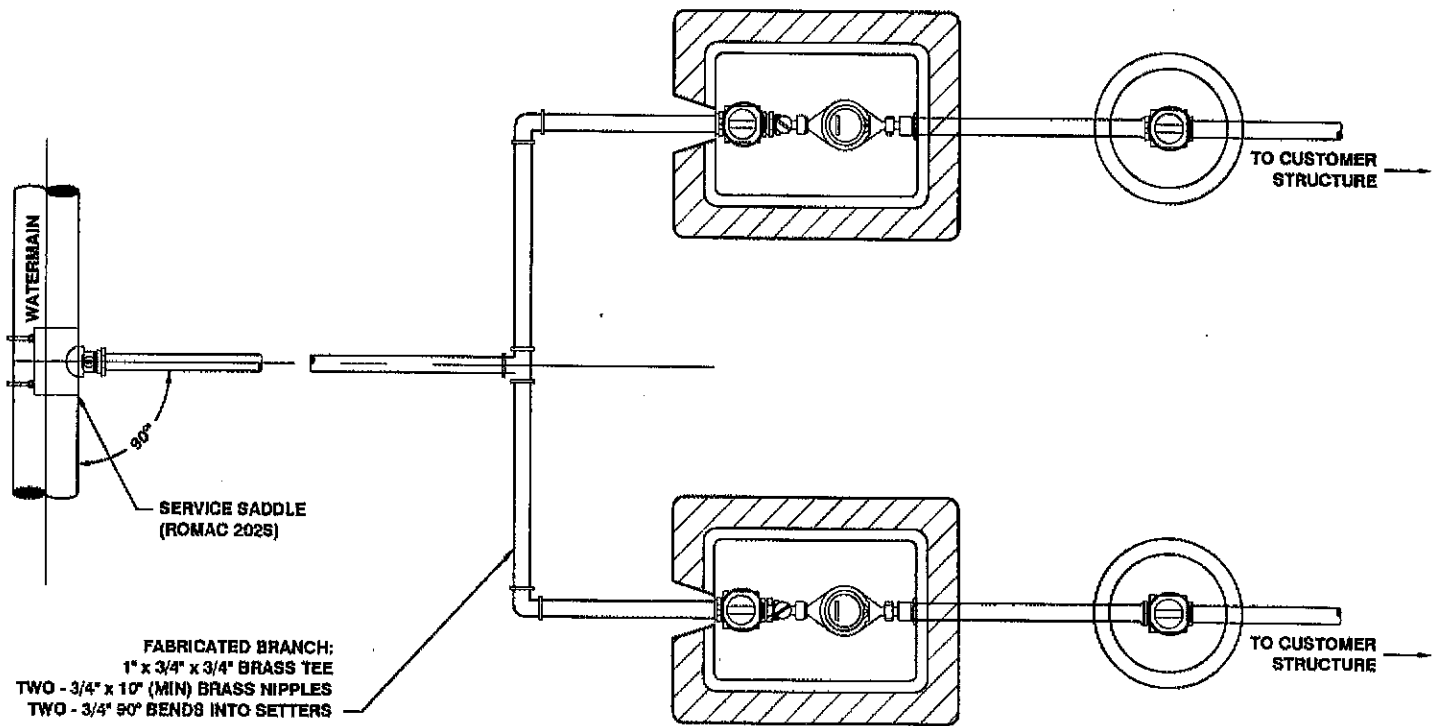
**STD PLAN NO: W-4**

APPROVED BY:

*[Signature]*  
Lewis County Engineer

REVISED DATE:

*2/18/16*



**PLAN VIEW**

**NOTES:**

1. SEE STANDARD DETAIL W-3 FOR CONNECTION  
TO MAIN AND SINGLE METER SERVICE DETAILS

**DRAWING NOT TO SCALE**



**1" DUAL WATER SERVICE**

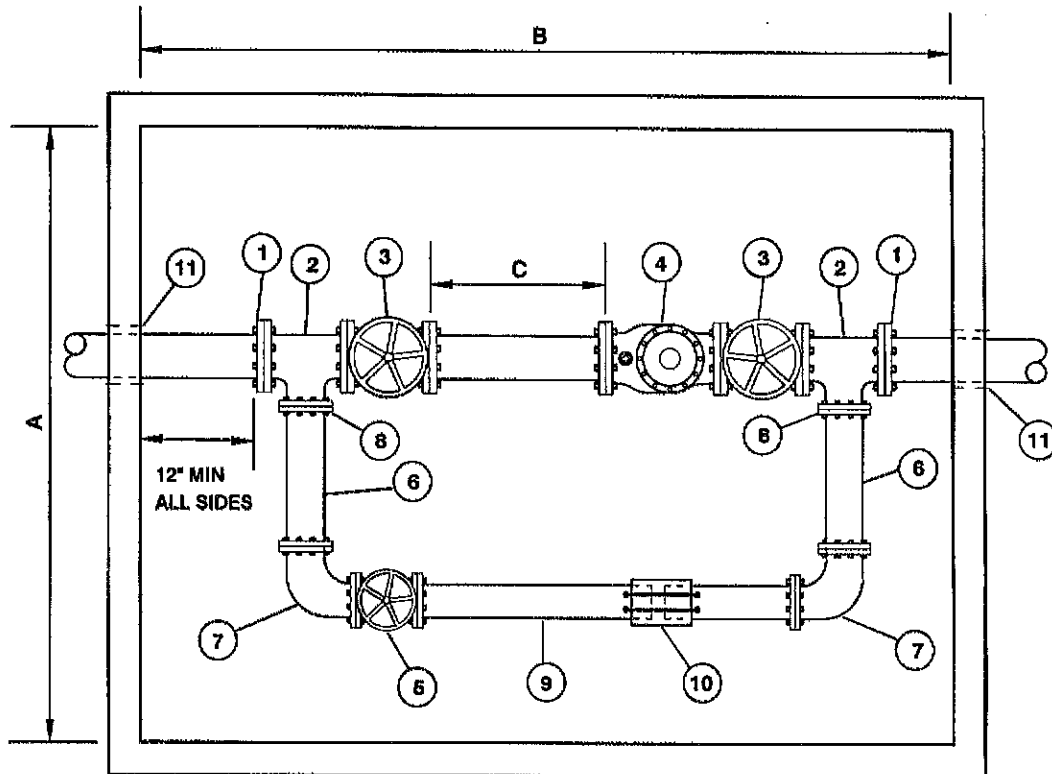
**STD PLAN NO: W-5**

APPROVED BY

*[Signature]*  
Lewis County Engineer

REVISED DATE:

2/8/16



METER	Minimum Dimensions			DOOR SIZE	VAULT DEPTH	TEE
	A"	B"	C"			
3" Compound	3'6"	5'6"	16"	3' X 3'	5'0"	3"X1 1/2"
4" Compound	3'6"	8'0"	20"	3' X 3'	5'0"	4"X2"
6" Compound	3'6"	8'0"	30"	3' X 3'	5'0"	6"X4"
8" Compound	4'6"	10'0"	40"	4' X 4'	5'0"	8"X6"

- |  |                              |
|--|------------------------------|
| ① FLEX X FLG COUPLING                      | ⑧ COMPANION FLG              |
| ② ALL-FLG TEE                              | ⑨ BRASS OR DUCTILE IRON PIPE |
| ③ FLG RES. SEATED GATE VALVE W/HAND WHEEL  | ⑩ MECHANICAL COUPLING        |
| ④ COMPOUND METER                           | ⑪ PIPE SLEEVE                |
| ⑤ GATE VALVE W/HAND WHEEL                  |                              |
| ⑥ BRASS OR DUCTILE IRON NIPPLES            |                              |
| ⑦ 90° ELBOWS (MATERIAL TO BE SAME AS PIPE) |                              |

#### NOTES:

#### PLAN VIEW

1. VAULT DIMENSIONS SHOWN ARE INSIDE (MIN) DIMENSIONS.
2. BACKFLOW PREVENTION IS NOT INCLUDED AS PART OF THIS DETAIL.
3. METER AND SERVICE LINE SIZES WILL VARY ACCORDING TO NEED.
4. ALL VAULTS WILL BE SUPPORTED BY ADEQUATE FOOTING OR FLOOR.
5. PIPE AND FIXTURES TO BE SET ON VALVE STANDS INSTALLED ACCORDING TO MANUFACTURERS SPECS.
6. DRAINAGE MUST BE PROVIDED FOR THE VAULT.

**DRAWING NOT TO SCALE**



**WATER SERVICE (3" TO 8")**

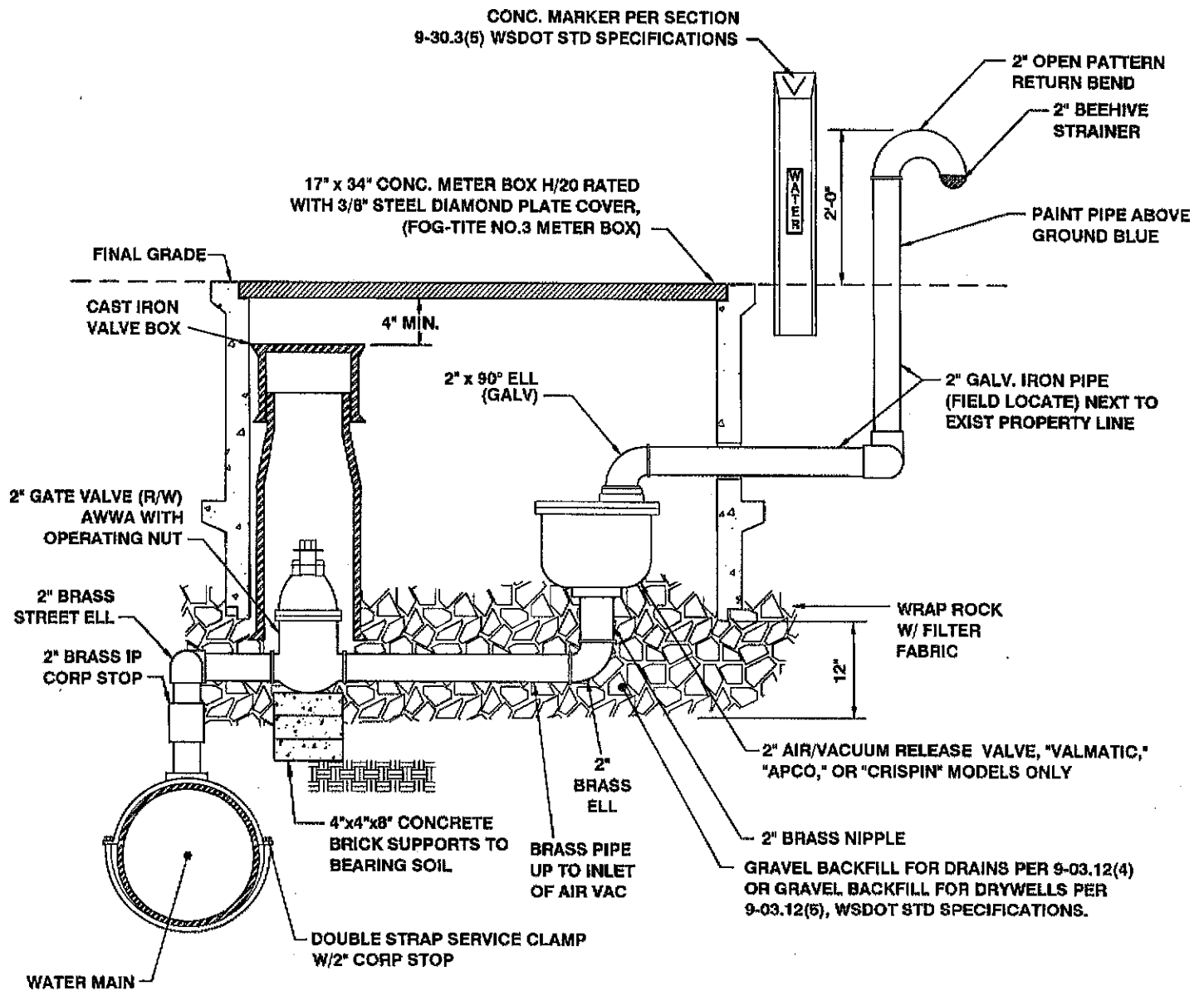
STD PLAN NO: W-6

APPROVED BY:

*[Signature]*  
Lewis County Engineer

REVISED DATE:

2/8/16



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# AIR AND VACUUM ASSEMBLY

STD PLAN NO: W-7

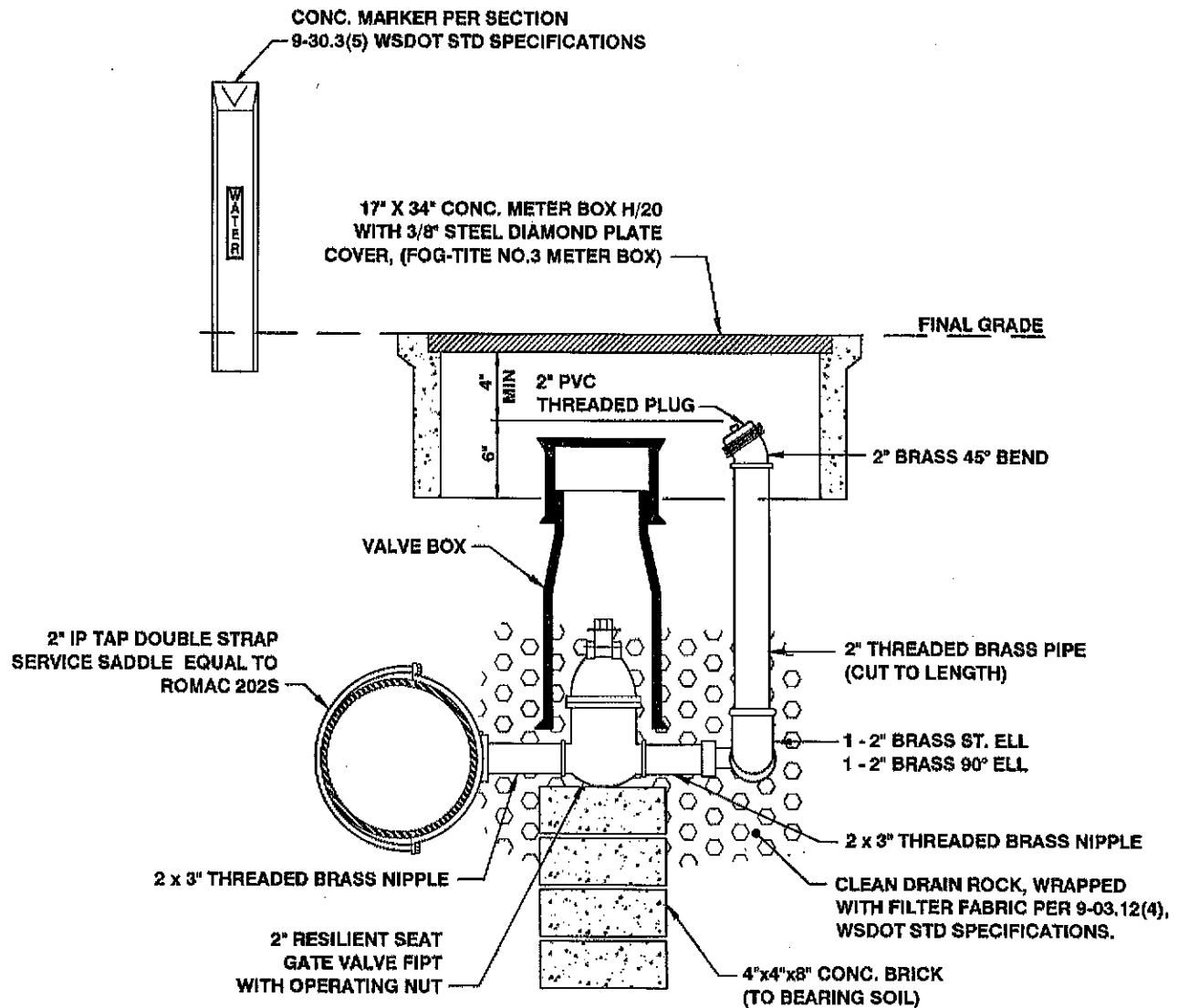
APPROVED BY:

*[Signature]*  
Lewis County Engineer

REVISED DATE:

2/8/10





DRAWING NOT TO SCALE

## BLOWOFF ASSEMBLY

STD PLAN NO: W-8

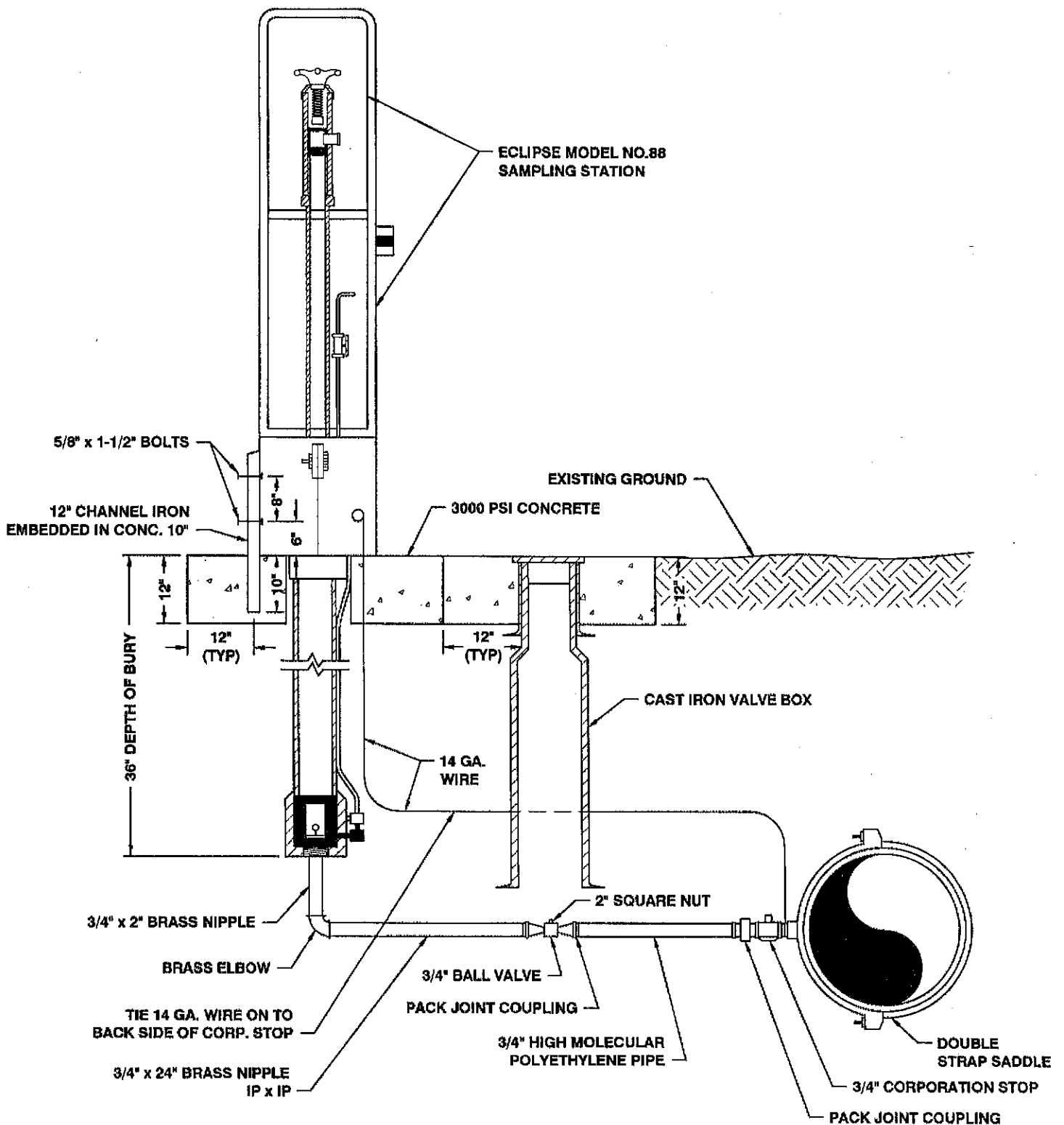


APPROVED BY:

*[Signature]*  
Lewis County Engineer

REVISED DATE:

2/8/16



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# **WATER SAMPLING STATION**

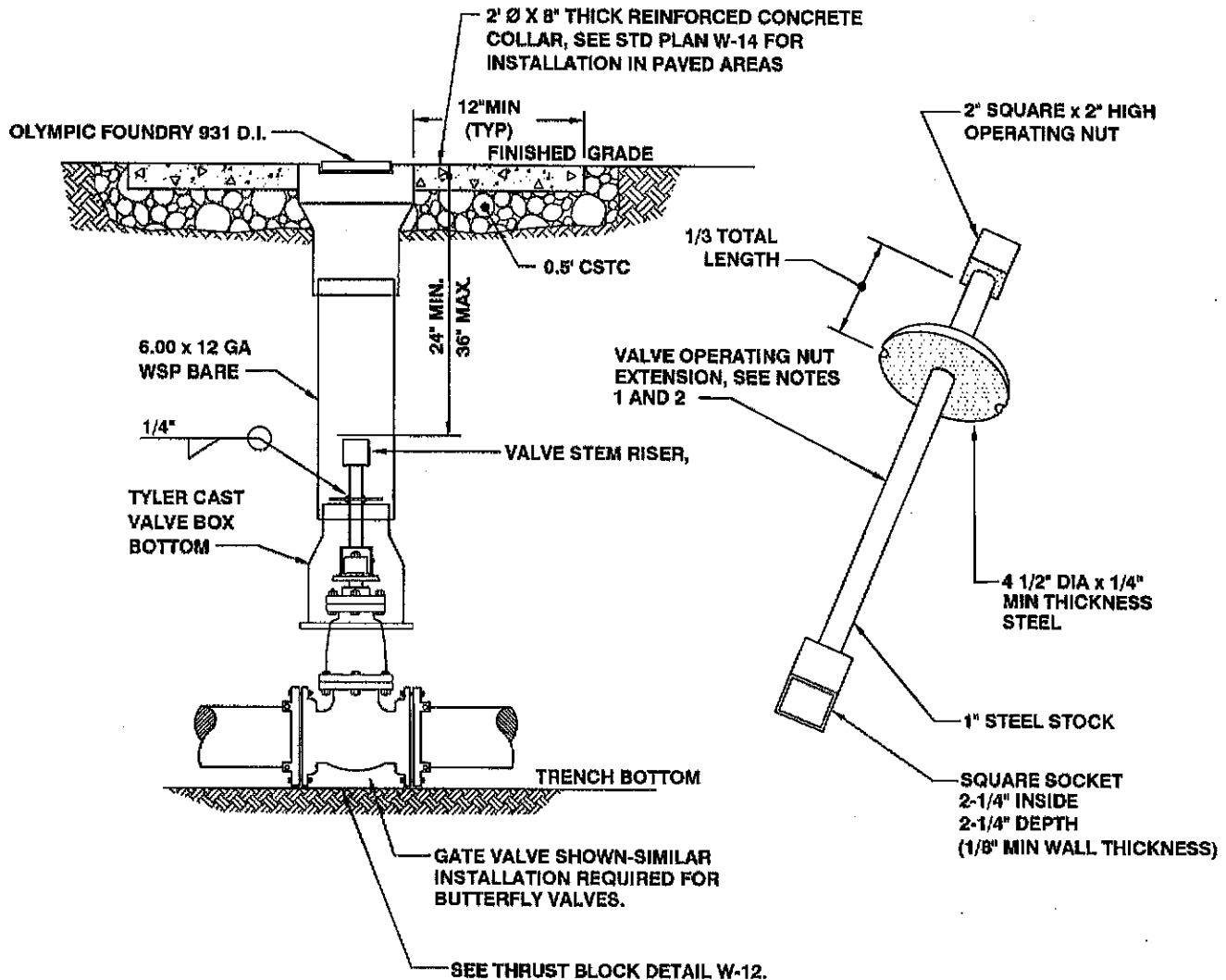
**STD PLAN NO: W-9**

**APPROVED BY**

**Lewis County Engineer**

**REVISED DATE:**

**2/8/16**



**NOTES:**

1. VALVE OPERATING NUT EXTENSIONS ARE REQUIRED WHEN THE VALVE NUT IS MORE THAN THREE FEET BELOW FINISHED GRADE. EXTENSIONS ARE TO BE A MINIMUM OF ONE FOOT LONG. ONLY ONE EXTENSION WILL BE ALLOWED PER VALVE.
2. ALL VALVE OPERATING NUT EXTENSIONS ARE TO BE MADE OF STEEL, SIZED AS NOTED, AND PAINTED WITH TWO COATS OF ENAMEL PAINT.

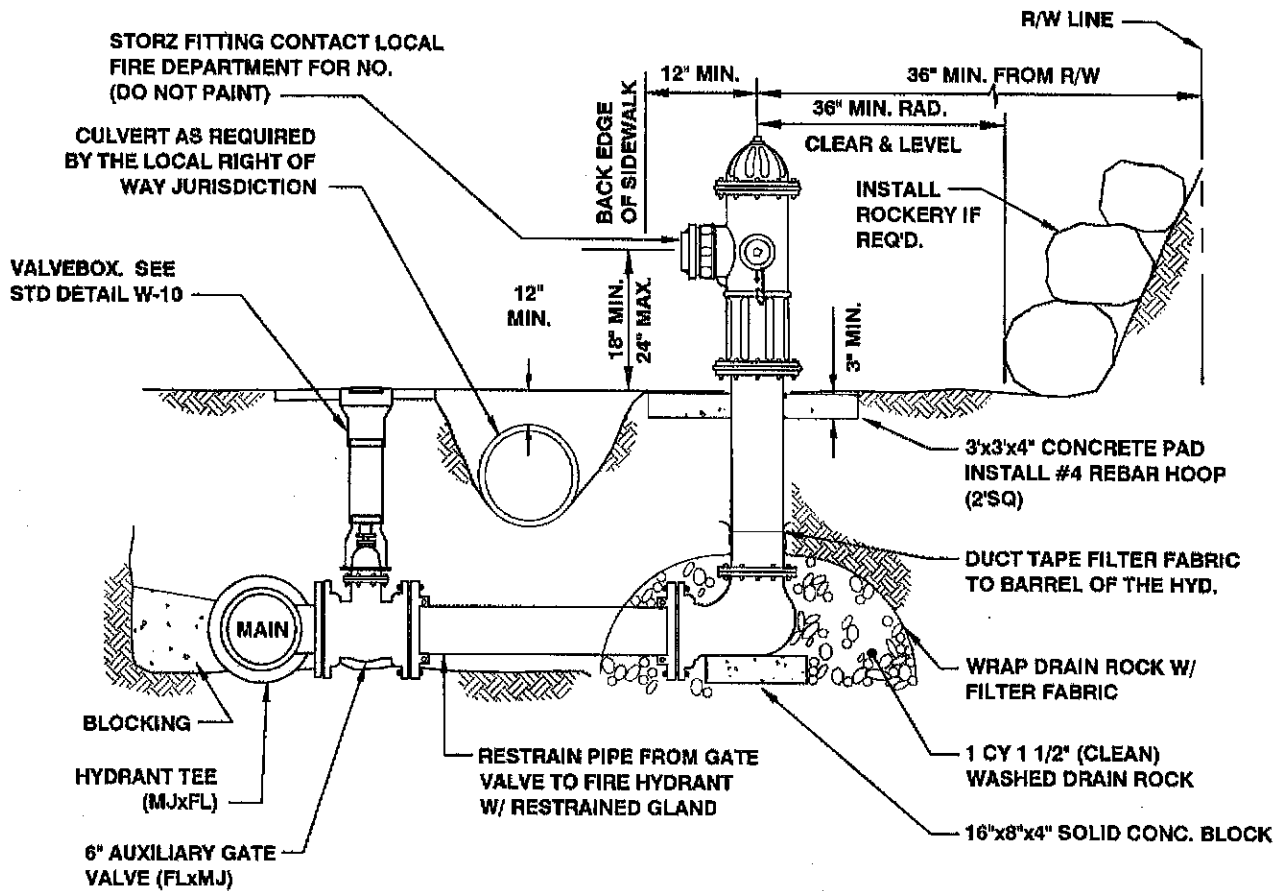
**DRAWING NOT TO SCALE**

**VALVE BOX DETAIL**

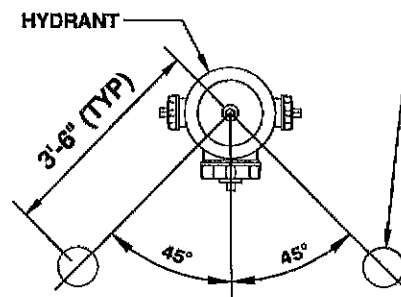
**STD PLAN NO: W-10**



APPROVED BY: \_\_\_\_\_ REVISED DATE: \_\_\_\_\_  
Lewis County Engineer



INSTALL BOLLARDS AS DIRECTED. TOP OF BOLLARD TO BE LEVEL W/ TOP OF HYDRANT OPERATING NUT.



**NOTES:**

1. PROVIDE LEVEL ACCESS TO FIRE HYDRANT.
2. FIRE HYDRANTS, BOLLARDS & VALVE BOX LIDS TO BE PAINTED WITH TWO COATS ALKYD GLOSS ENAMEL OF A COLOR DETERMINED BY THE UTILITY.

**DRAWING NOT TO SCALE**

**FIRE HYDRANT INSTALLATION**

STD PLAN NO: W-11

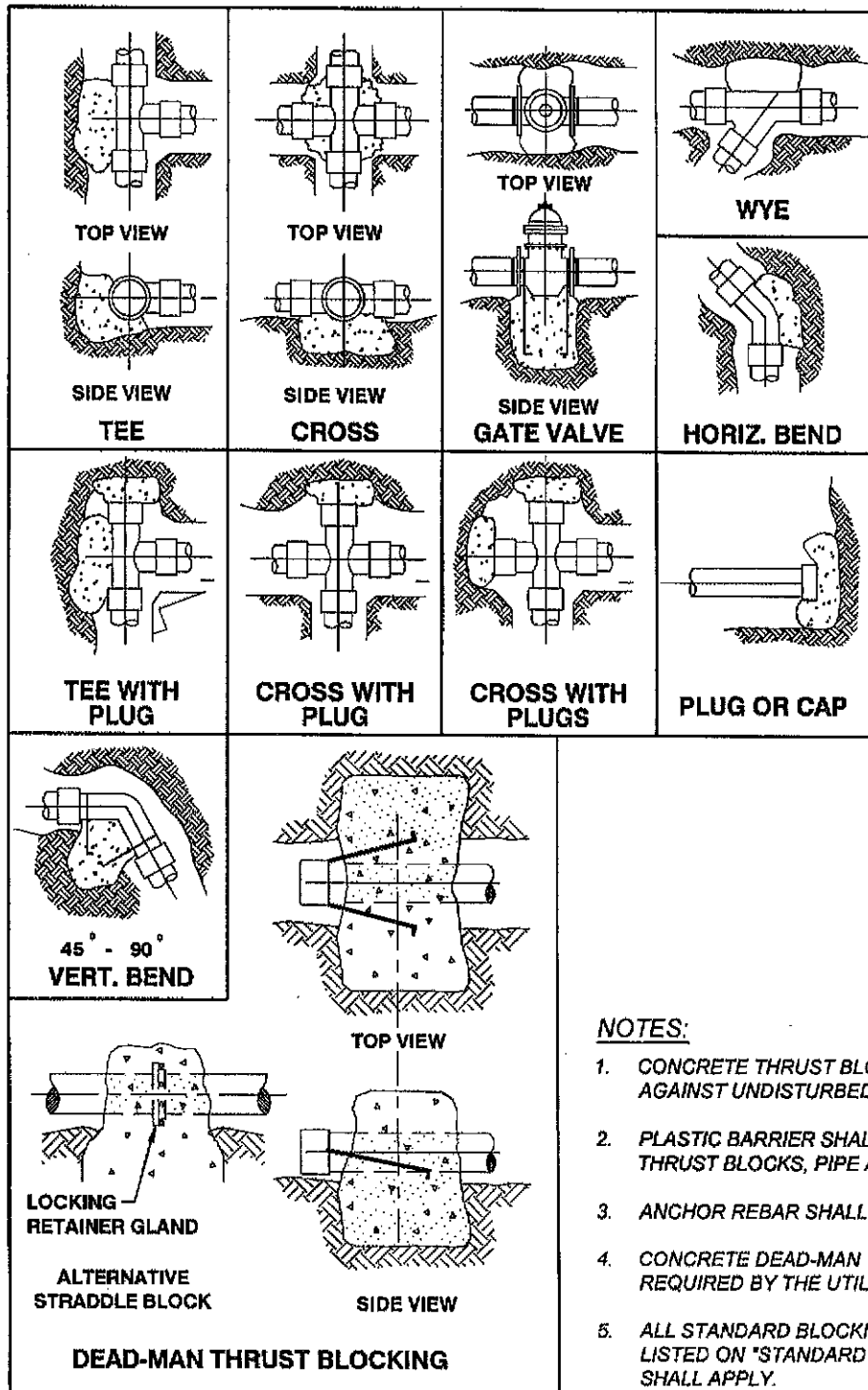


APPROVED BY

Lewis County Engineer

REVISED DATE:

2/8/14



**NOTES:**

1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. PLASTIC BARRIER SHALL BE PLACED BETWEEN ALL THRUST BLOCKS, PIPE AND FITTINGS.
3. ANCHOR REBAR SHALL BE 5/8" MINIMUM DIAMETER.
4. CONCRETE DEAD-MAN THRUST BLOCKING MAY BE REQUIRED BY THE UTILITY.
5. ALL STANDARD BLOCKING AND THRUST CRITERIA AS LISTED ON "STANDARD THRUST LOADS DETAIL" W-13 SHALL APPLY.
6. NO CONCRETE WILL COME IN CONTACT WITH ANY MECHANICAL JOINTS.

**DRAWING NOT TO SCALE**



**STANDARD BLOCKING DETAIL** STD PLAN NO: W-12

APPROVED BY:

*[Signature]*  
Lewis County Engineer

REVISED DATE:

*2/18/16*

## THRUST LOADS

THRUST AT FITTINGS IN POUNDS AT 200 POUNDS PER SQUARE INCH OF WATER PRESSURE

PIPE DIAMETER	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND	DEAD END OR TEE
4"	3,600	2,000	1,000	500	2,600
6"	8,000	4,400	2,300	1,200	5,700
8"	14,300	7,700	4,000	2,000	10,100
10"	22,300	12,100	6,200	3,100	15,800
12"	32,000	17,400	8,900	4,500	22,700
14"	43,600	23,600	12,100	6,100	30,800
16"	57,000	30,800	15,700	7,900	40,300

### NOTES:

1. BLOCKING SHALL BE COMMERCIAL CONCRETE CLASS POURED IN PLACE AGAINST UNDISTURBED EARTH. FITTING SHALL BE ISOLATED FROM CONCRETE THRUST BLOCK WITH PLASTIC OR SIMILAR MATERIAL.
2. TO DETERMINE THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET (S.F.): EXAMPLE: 12" - 90 DEG. BEND IN SAND AND GRAVEL.  
32,000 LBS : 3000 LB/S.F. = 10.7 S.F. OF AREA
3. AREAS MUST BE ADJUSTED FOR OTHER PIPE SIZE, PRESSURES AND SOIL CONDITIONS.
4. BLOCKING SHALL BE ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATING PRESSURE UNDER ALL CONDITIONS OF SERVICE.
5. BLOCKING FOR PIPES LESS THAN 4" DIA. WILL USE 4" PIPE VALUES.

## SAFE SOIL BEARING LOADS

FOR HORIZONTAL THRUSTS WHEN THE DEPTH  
OF COVER OVER THE PIPE EXCEEDS 2 FEET

SOIL	POUNDS PER SQUARE FOOT
MUCK, PEAT	0
SOFT CLAY	1,000
SAND	2,000
SAND & GRAVEL	3,000
SAND & GRAVEL CEMENTED WITH CLAY	4,000
HARD SHALE	10,000

**DRAWING NOT TO SCALE**



## STANDARD THRUST LOADS

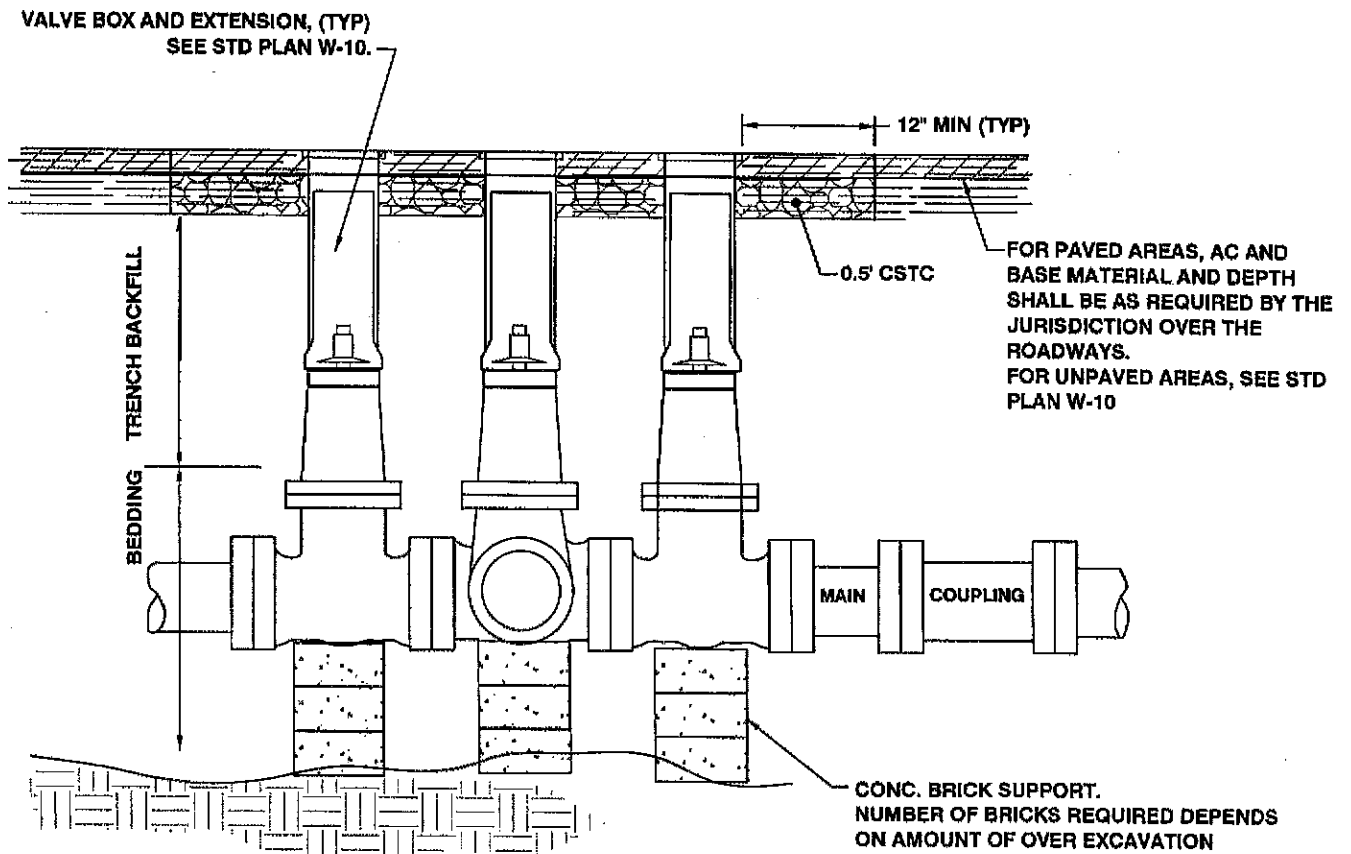
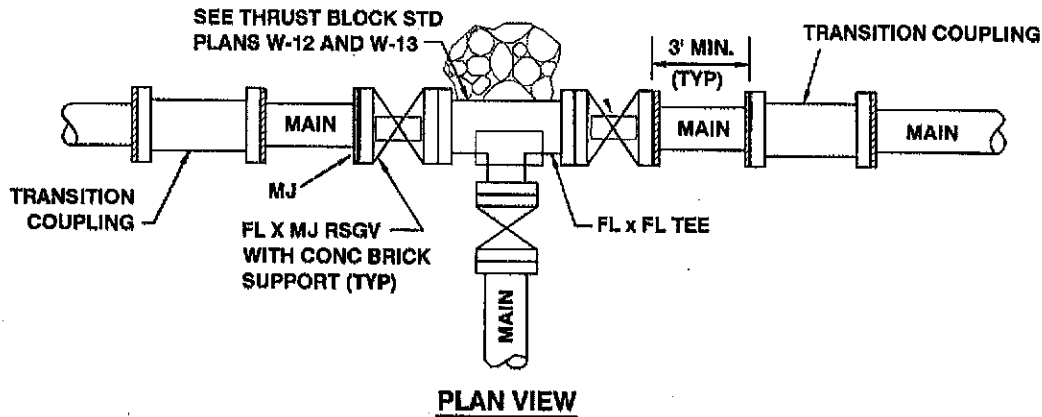
STD PLAN NO: W-13

APPROVED BY:

Lewis County Engineer

REVISED DATE:

2/8/16



**NOTES:**

1. COMPACTION OF BEDDING AND TRENCH BACKFILL SHALL BE PER STD PLAN W-1.

**DRAWING NOT TO SCALE**

**CONNECTION TO MAIN**

**STD PLAN NO: W-14**

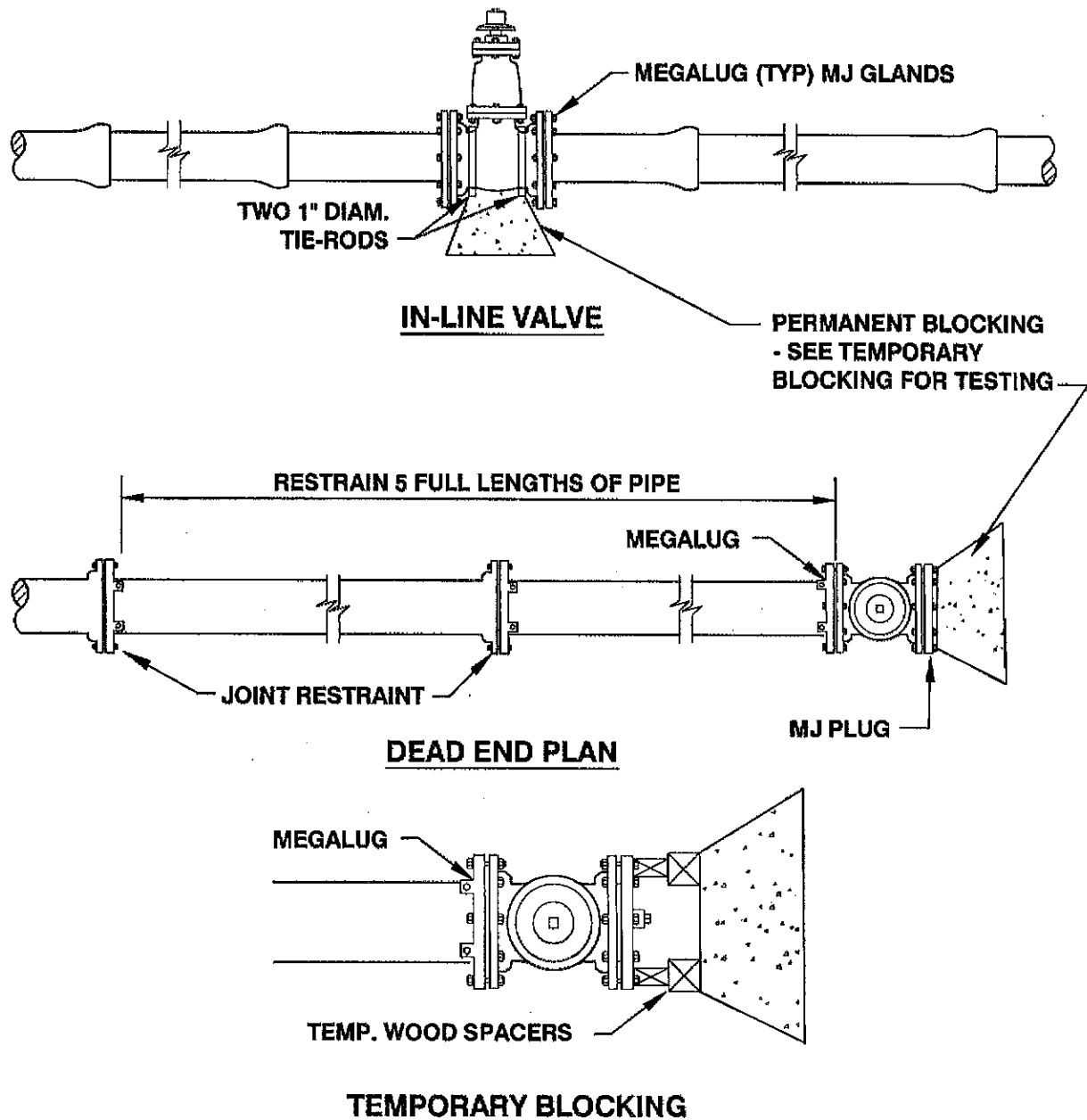


APPROVED BY:

Lewis County Engineer

REVISED DATE:

2/8/16



**NOTES:**

1. ADDITIONAL RESTRAINT IS REQUIRED ON DEAD ENDS WITH POOR GROUND CONDITIONS.
2. MEGALUGS (EBAA IRON OR EQUAL) SHALL BE INSTALLED ON ALL INDICATED MECHANICAL JOINTS.
3. SEE STANDARD DETAIL W-12 FOR BEND BLOCKING REQUIREMENTS.

**DRAWING NOT TO SCALE**



**VALVES AND RESTRAINT REQUIREMENT**

STD PLAN NO: W-15

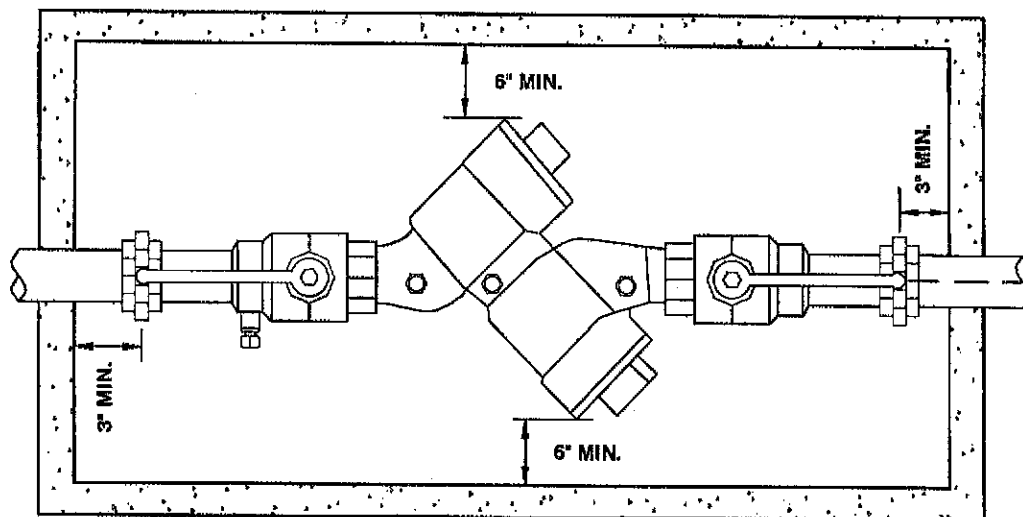
APPROVED BY:

*[Signature]*  
Lewis County Engineer

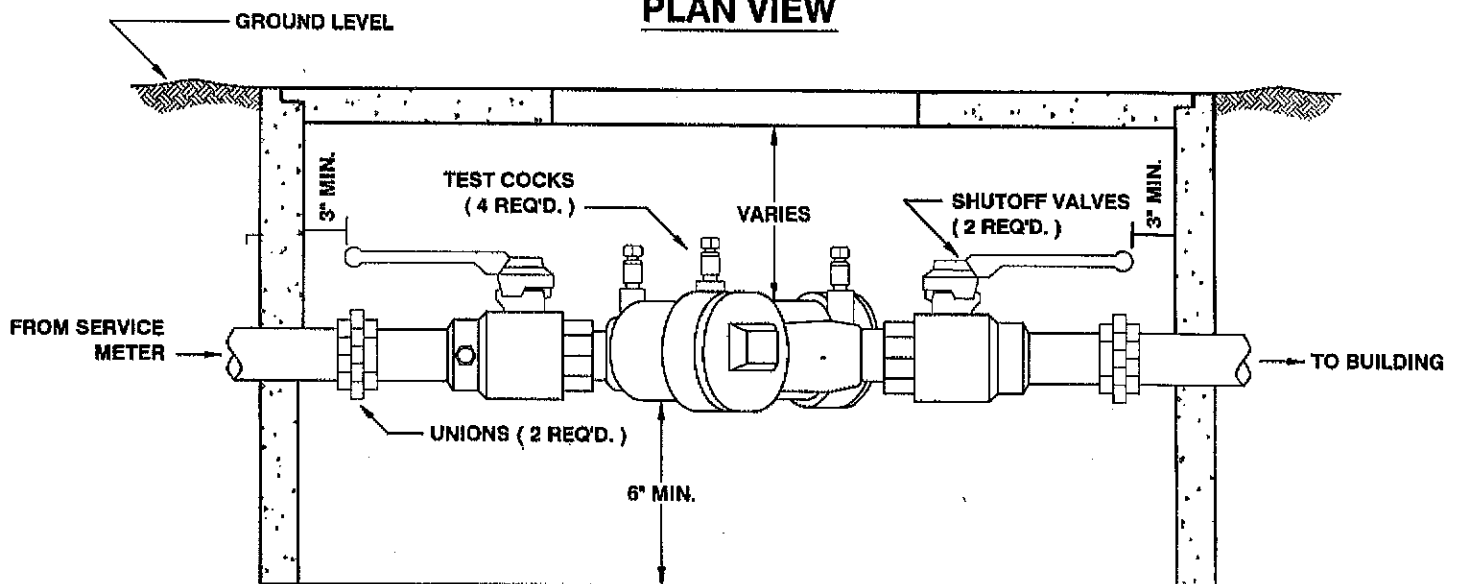
REVISED DATE:

*2/8/16*





**PLAN VIEW**



**NOTES:**

1. DOUBLE CHECK VALVE ASSEMBLY SHALL BE DOH APPROVED MODEL.
2. VAULT SHALL BE ADEQUATELY SIZED FOR TESTING, REPAIR, AND MAINTENANCE.  
MINIMUM BOX SIZE:  
- 3/4" TO 1" ASSEMBLIES: 10" X 13"  
- 1-1/4" TO 2" ASSEMBLIES: 14" X 20"
3. INSTALL WITH TEST COCKS FACING UP OR TO ONE SIDE.
4. BE AWARE OF THERMAL EXPANSION DANGER.

**DRAWING NOT TO SCALE**



**DOUBLE CHECK  
DETECTOR ASSEMBLY  
(2" OR SMALLER)**

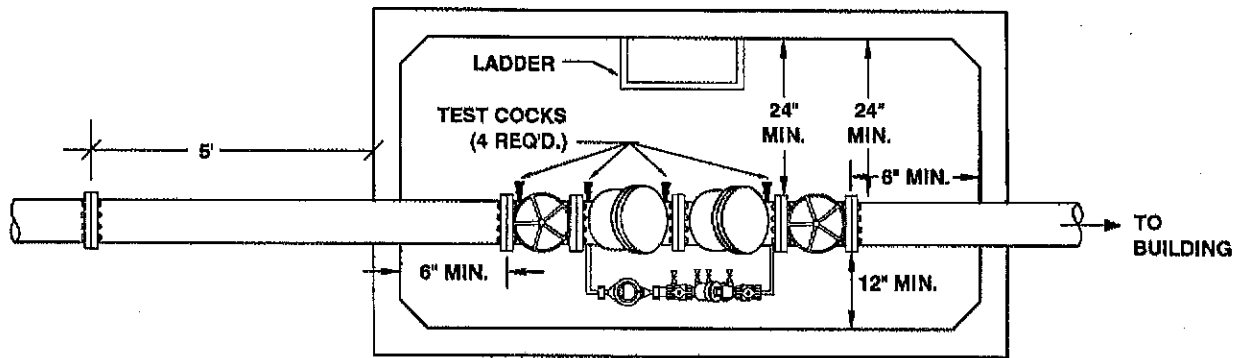
STD PLAN NO: W-16

APPROVED BY:

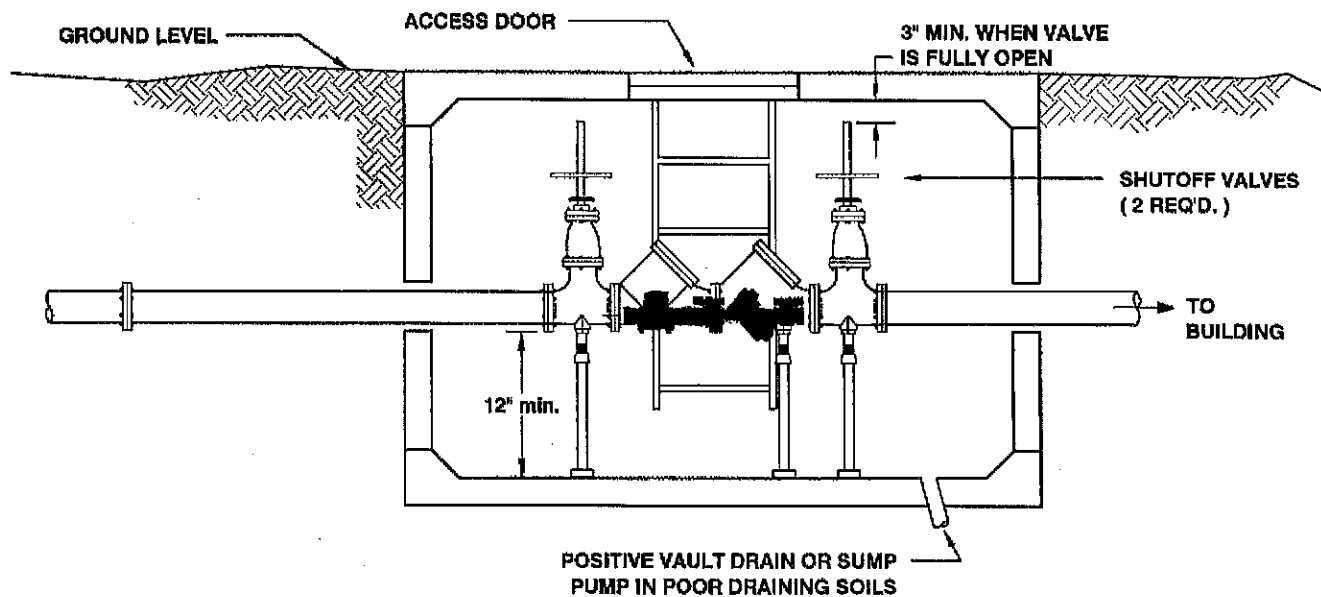
Lewis County Engineer

REVISED DATE:

2/8/16



**PLAN VIEW**



**MATERIAL LIST:**

1. DOUBLE CHECK DETECTOR ASSEMBLY SHALL BE DOH APPROVED MODEL.
2. SUPPORT STANDS
3. STANDARD CONCRETE VAULT WITH BOTTOM AND DIAMOND PLATED, ALUMINUM LID WITH HINGED, LOCKABLE DOUBLE DOOR.

**DRAWING NOT TO SCALE**

**DOUBLE CHECK DETECTOR  
ASSEMBLY  
(3" OR LARGER) BELOW GROUND**

STD PLAN NO: W-17

APPROVED BY:

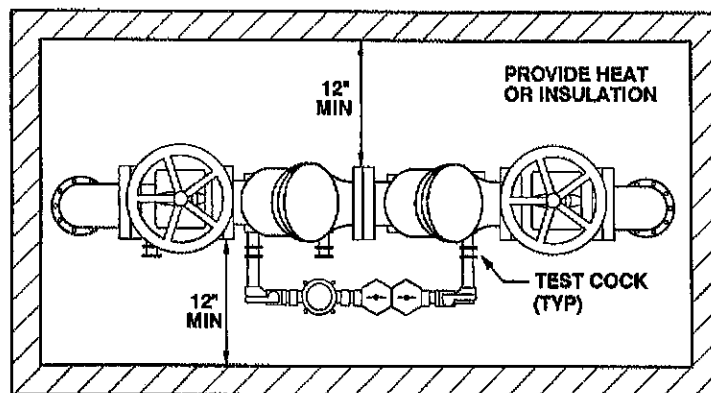
Lewis County Engineer

REVISED DATE:

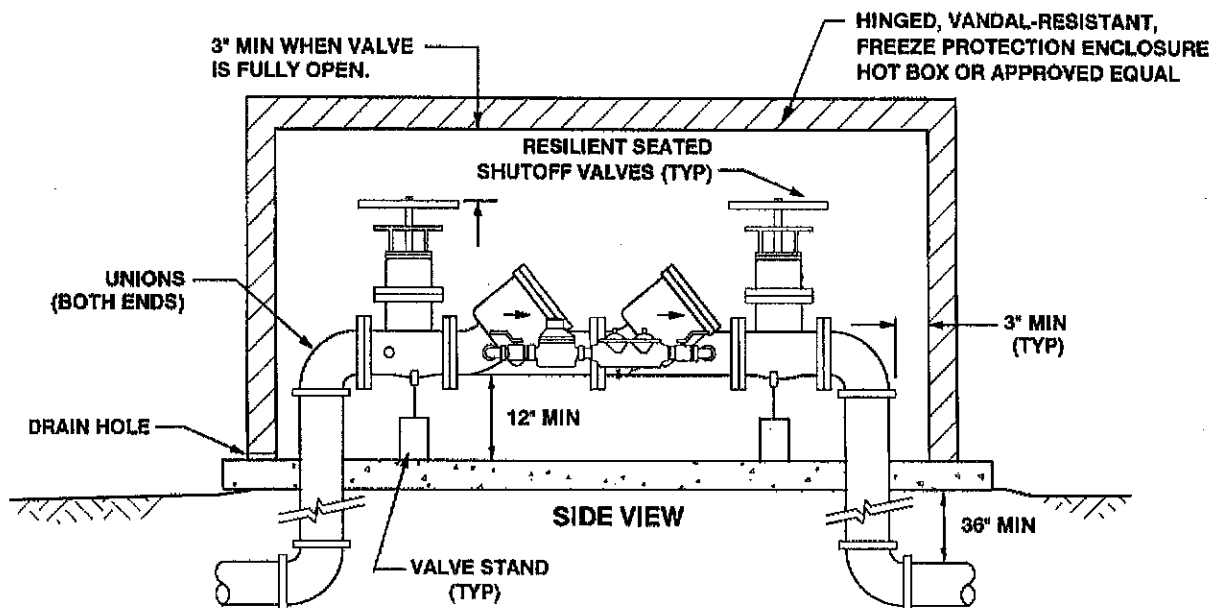
2/8/14



A UTILITY APPROVED VALVE IS REQ'D BETWEEN THE SUPPLY MAIN AND THE ENCLOSURE



TOP VIEW



SIDE VIEW

## ABOVE GROUND INSTALLATION

### NOTES:

1. DOUBLE CHECK DETECTOR CHECK VALVE ASSEMBLY SHALL BE DOH APPROVED MODEL WITH 4 TEST COCKS AND A RESILIENT SEATED SHUT OFF VALVE MOUNTED AT EACH END.
2. THE BACKFLOW ASSEMBLY SHALL BE TESTED AFTER INSTALLATION BY A CERTIFIED BACKFLOW ASSEMBLY TESTER PRIOR TO UTILITY ACCEPTANCE. ANNUAL TESTING IS REQUIRED THEREAFTER.
3. ALL PIPE, VALVE, AND FITTING JOINTS FROM THE SUPPLY MAIN, SHALL BE FLANGED AND RESTRAINED.
4. THE WATER LINE SHALL BE DISINFECTED, FLUSHED, AND PRESSURE TESTED PRIOR TO INSTALLING THE BACKFLOW ASSEMBLY.
5. THE BACKFLOW ASSEMBLY SHALL BE PROTECTED FROM FREEZING AND FLOODING.
6. THE PIPE ENTRANCE AND EXIT SHALL BE SEALED TO BE WATER TIGHT.
7. ALL ENCLOSURES SHALL BE PRE-APPROVED BY THE UTILITY, PRIOR TO INSTALLATION.
8. ENCLOSURES SHALL BE INSTALLED ABOVE GROUND AT PROPERTY LINE ON OWNERS PROPERTY.
9. ENCLOSURES SHALL HAVE A MINIMUM OF 3' CLEARANCE FROM ALL STRUCTURES.
10. VALVE STANDS SHALL BE INSTALLED ACCORDING TO MANUFACTURERS RECOMMENDATIONS.

**DRAWING NOT TO SCALE**



## DOUBLE CHECK DETECTOR ASSEMBLY (3" OR LARGER) ABOVE GROUND

STD PLAN NO: W-18

APPROVED BY:

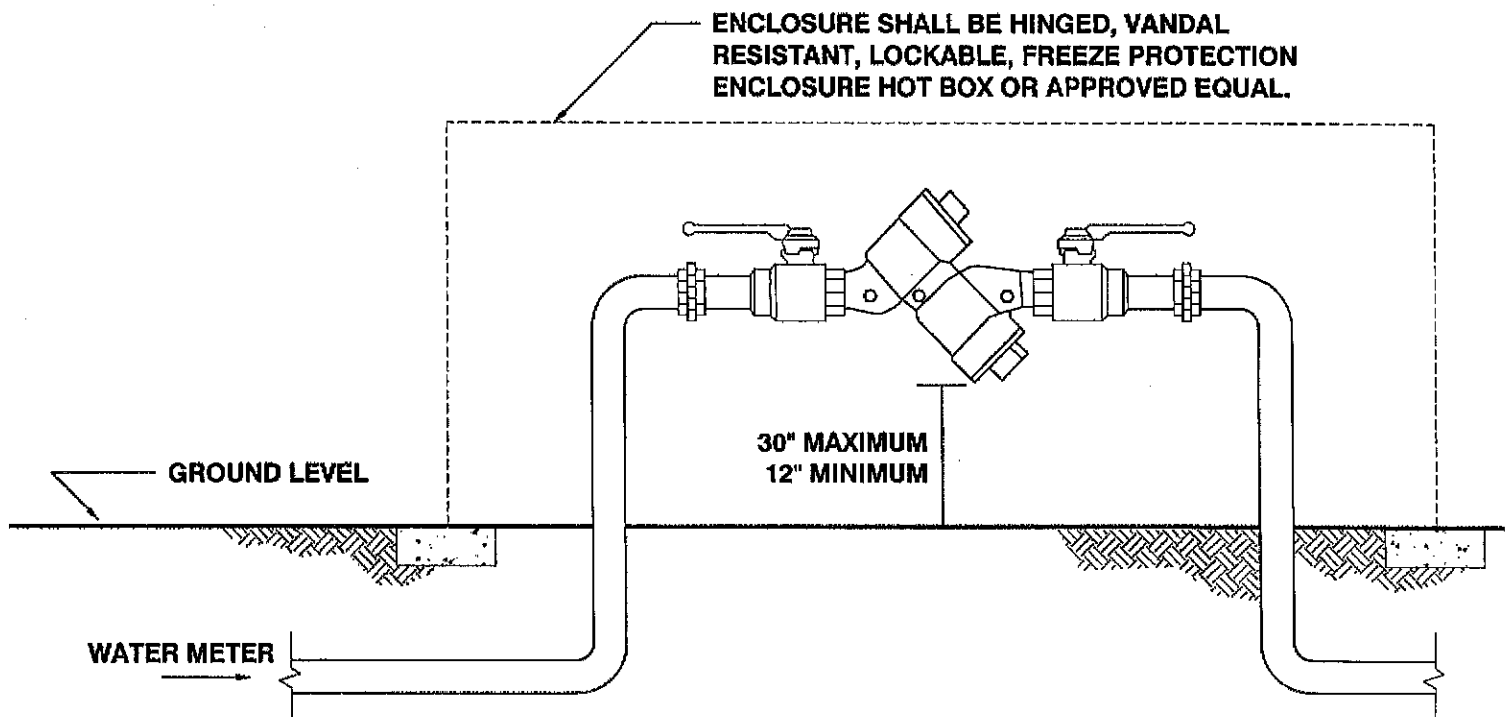
Lewis County Engineer

REVISED DATE:

2/8/16

**NOTES:**

1. REDUCED PRESSURE BACKFLOW ASSEMBLY SHALL BE DOH APPROVED MODEL.
2. ENCLOSURE SHOULD BE ADEQUATELY SIZED FOR TESTING, REPAIR & MAINTENANCE.
3. ENCLOSURE SHALL BE CONSTRUCTED WITH ADEQUATE DRAIN FOR RELIEF VALVE DISCHARGE.
4. VERTICAL OR BELOW GROUND INSTALLATIONS ARE NOT ACCEPTABLE.
5. BE AWARE OF THERMAL EXPANSION DANGER.



**DRAWING NOT TO SCALE**



**REDUCED PRESSURE  
BACKFLOW ASSEMBLY  
(2" OR SMALLER)**

STD PLAN NO: W-19

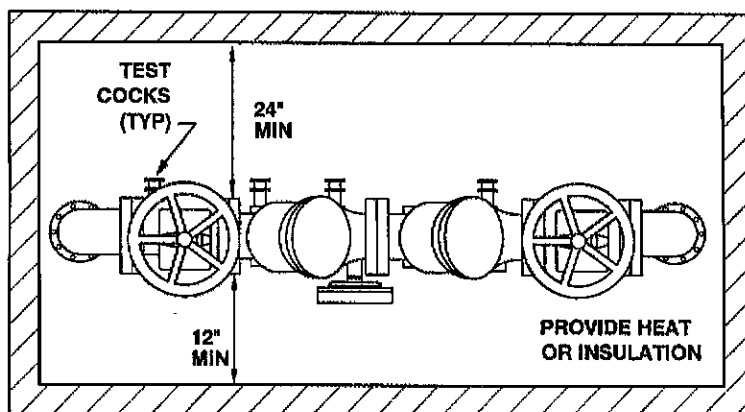
APPROVED BY:

*[Signature]*  
Lewis County Engineer

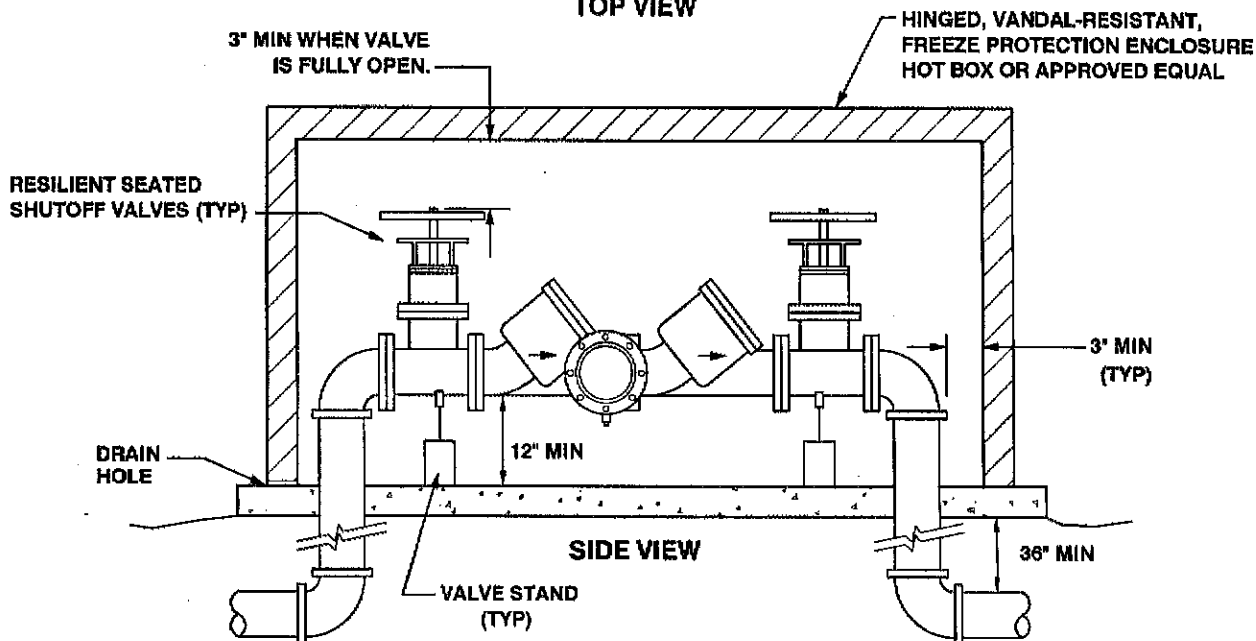
REVISED DATE:

*2/8/16*

A UTILITY APPROVED VALVE IS REQ'D. BETWEEN THE SUPPLY MAIN AND THE ENCLOSURE.



TOP VIEW



### ABOVE GROUND INSTALLATION

#### NOTES:

1. BACKFLOW ASSEMBLY SHALL BE A WASHINGTON STATE DEPT. OF HEALTH APPROVED MODEL.
2. APPROVED BACKFLOW ASSEMBLY TO LAY HORIZONTAL ONLY.
3. THE BACKFLOW ASSEMBLY SHALL BE TESTED AFTER INSTALLATION AND PRIOR TO ACCEPTANCE BY A CERTIFIED BACKFLOW ASSEMBLY TESTER. ANNUAL TESTING IS REQUIRED THEREAFTER. TEST RESULTS SHALL BE SENT TO THE UTILITY.
4. ALL PIPE, VALVE, AND FITTING JOINTS FROM THE SUPPLY MAIN, SHALL BE FLANGED AND RESTRAINED.
5. THE WATER LINE SHALL BE DISINFECTED, FLUSHED, AND PRESSURE TESTED PRIOR TO INSTALLING THE BACKFLOW ASSEMBLY.
6. THE BACKFLOW ASSEMBLY SHALL BE PROTECTED FROM FREEZING AND FLOODING.
7. SEAL PIPE ENTRANCE AND EXIT, THROUGH ENCLOSURE, SO AS TO BE WATER TIGHT.
8. ALL ENCLOSURES SHALL BE PRE-APPROVED BY THE UTILITY PRIOR TO INSTALLATION.
9. ENCLOSURES SHALL BE INSTALLED AT PROPERTY LINE ON OWNERS SIDE.
10. ENCLOSURES SHALL HAVE A MINIMUM OF 3' CLEARANCE FROM ALL STRUCTURES.
11. VALVE STANDS SHALL BE INSTALLED ACCORDING TO MANUFACTURERS RECOMMENDATIONS.
12. TEST COCKS SHALL BE LOCATED SO AS TO FACILITATE ACCESS.

DRAWING NOT TO SCALE



## REDUCED PRESSURE BACKFLOW ASSEMBLY (3" OR LARGER)

STD PLAN NO: W-20

APPROVED BY: *[Signature]*

Lewis County Engineer

REVISED DATE: *2/8/16*

# BOCC AGENDA ITEM SUMMARY

Resolution: Ord 1265

BOCC Meeting Date: Feb 22, 2016

Suggested Wording for Agenda Item:

Agenda Type: Hearing

An Ordinance of Lewis County, WA, repealing and replacing LCC Title 13 Public Utilities

Contact: Shirley Kook

Phone: 740-2759

RECEIVED

Department: Public Works

FEB 11 2016

Action Needed: Approve Ordinance (traffic or other)

LEWIS CO. PROS. ATTY.

## Description

In response to an immediate need to provide water service in the City of Vader water service area to correct health and safety deficiencies, Ordinances 1213 and 1221 were adopted in 2010 and 2011, respectively, to authorize Lewis County to construct, operate and maintain systems of sewerage and water according to RCW 36.94.

After five years of operating and managing the public Vader-Enchanted Valley Water System, new code provisions are needed to comply with necessary state and federal regulations to continue providing quality potable water to our water utility customers.

The proposed revisions to LCC Title 13 are mainly for clarification, inclusion of water design standards, a cross-connection control program and a water conservation program. The clarifications are made to be consistent with our operating procedures, and for conciseness and clarity.

There are many proposed changes and insertions. For efficiency and to avoid omission, staff is recommending the action of repealing and replacing all provisions to LCC Title 13 with the new text in Attachment A of Ordinance 1265.

Resolution No. 16-050 on February 8, 2016 set a hearing to hear public comment on the new regulations for LCC Title 13.

## Publication Requirements:

Hearing Date: Feb 22, 2016

Publications:

Publication Dates:

16-017 JW

## AFFIDAVIT OF PUBLICATION

STATE OF WASHINGTON }  
COUNTY OF LEWIS } SS

The undersigned, on oath state that he/she is an authorized representative of The East County Journal, a weekly newspaper, which newspaper is a legal newspaper of general circulation and it is now and has been for more than six month prior to the date of publication hereinafter referred to, published in the English language continuously as a weekly newspaper in Morton, Lewis County, Washington, and it is now and during all of said time was printed in an office maintained at the aforesaid place of publication of this newspaper.

The notice in the exact form annexed, was published in regular issues of The East County Journal which was regularly distributed to its subscribers during the below stated period.

The annexed notice, a

Public Hearing, Replace (LCC) Title  
13 with Proposed Ordinance 1265

was published on Feb. 10 + 17, 2016

The amount of the fee charged for the foregoing publication is the sum of \$ 75.00

Subscribed and sworn to before me this 18th day of Feb, 2016

Renee C. Justice

Notary Public in and for the  
State of Washington  
Residing in Onalaska



### NOTICE OF PUBLIC HEARING Before the LEWIS COUNTY BOARD OF COUNTY COMMISSIONERS

NOTICE IS HERBY GIVEN that the Lewis County, Washington, Board of County Commissioners will hold a public hearing for the purpose of receiving public testimony to repeal and replace Lewis County Code (LCC) Title 13 with proposed Ordinance 1265. The hearing will be held on or after 10:00 A.M. on Monday, February 22, 2016, in the Commissioners' Hearing Room, on the second floor of the Lewis County Courthouse, 351 NW North St, Chehalis, WA.

The revisions to LCC Title 13 are mainly for clarification and inclusion of: water design standards, cross-connection control program and water conservation program. After five years of operating and managing the public Vader-Enchanted Valley water system, these new code provisions are needed to comply with all necessary regulations to provide quality potable water to our customers.

The draft ordinance is available for review online at [www.lewiscountywa.gov/publicworks](http://www.lewiscountywa.gov/publicworks), and at Lewis County Public Works, 2025 NE Kresky Ave, Chehalis, WA or contact Shirley Kook@lewiscountywa.gov or 360-740-2759. Written comments may be submitted by 5:00 PM February 19, 2016 to the Clerk of the Board, 351 NW North St, Chehalis, WA 98532.

This meeting site is barrier free. People needing special assistance or accommodations should contact the Public Works Department 72 hours in Advance of the meeting.

Phone: (360) 740-1123

Published in The East County Journal

February 10, February 17, 2016



**BEFORE THE BOARD OF COUNTY COMMISSIONERS  
OF LEWIS COUNTY, WASHINGTON**

**ESTABLISHING WATER CONNECTION  
FEES AND RATES FOR THE  
VADER WATER SYSTEM**

**RESOLUTION NO. 11-095**

**WHEREAS**, Lewis County established a Utility Division within the Department of Public Works per Ordinance 1215 on July 26, 2010; and

**WHEREAS**, Lewis County assumed full operation and management of the City of Vader water system on January 1, 2011 through the State receivership process to correct health and safety deficiencies; and

**WHEREAS**, connection fees and rates are to be established by the Board per Section 13.20.040 of the Lewis County Code; and

**WHEREAS**, the Board has reviewed the proposed connection fees and rates (attached as Attachment A); and

**WHEREAS**, the Board has conducted a public hearing on March 21, 2011 about the proposed fees and rates for the City of Vader water system; and

**WHEREAS**, the Board has reviewed testimony from the public hearing; and

**WHEREAS**, it is in the best public interest to approve these connection fees and rates for the City of Vader water system.

**NOW THEREFORE BE IT RESOLVED**, that the water service connection fees and rates for the Vader water system are approved and shall be effective for the water connection services as of April 1, 2011.

**DONE IN OPEN SESSION** this 21<sup>st</sup> day of March 2011.

APPROVED AS TO FORM:  
Jonathan L. Meyer, Prosecuting Attorney

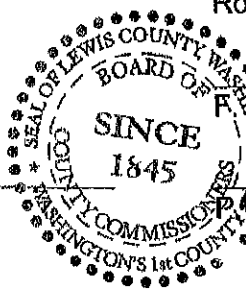
By: Civil Deputy

BOARD OF COUNTY COMMISSIONERS  
LEWIS COUNTY, WASHINGTON

Ron Averill, Chairman

ATTEST:

Karri Muir, Clerk of the Board



Joe Grose, Vice Chairman

W. Schulte, Member



Resolution No. 11-095

**ATTACHMENT A**

**UTILITY FEES AND RATES  
FOR THE  
VADER WATER SYSTEM**

**CUSTOMER DEPOSIT FOR NEW ACCOUNTS:**

Residential	\$100.00
Commercial	\$200.00

**CONNECTION CHARGES:**

Service Size: $\frac{3}{4}$ "	Meter Size: $5/8$ " x $3/4$ "	\$2,500.00
1"	1"	\$2,500.00
1-1/2"	1-1/2"	\$2,500.00
2"	2"	\$3,000.00
Above 2"	4" and larger	Actual Cost plus Overhead

**DELINQUENT CHARGE** \$25.00

**DOORHANGER CHARGE** \$25.00

**METER TESTING CHARGES:**

Meter Size: $5/8$ " x $3/4$ "	\$50.00
1"	\$50.00
1-1/2"	\$50.00
2"	\$100.00
3"	\$200.00
6"	\$300.00
8"	\$400.00

**OVERHEAD RATE CHARGE** 25%

**SERVICE CALL CHARGES:**

During Normal working Hours*	\$25.00
During Non-normal working Hours*	\$75.00
*Add labor costs per employee and travel time at Overhead Rate Charge.	

**SERVICE METER CHARGE** \$300.00

**TURN-ON CHARGE** \$25.00

**SHUT-OFF** - there is no shut off charge

**WATER USAGE CHARGES:**

Residential Base Charge	\$43.50/month
Commercial Base Charge	\$43.50/month
Usage Charge	\$6.50/1000 gallons

**WATER USAGE CHARGE FROM FIRE PROTECTION FACILITIES** \$6.50/1000 gallons

## SIGN IN SHEET

Page \_\_\_ of \_\_\_

Vader Health Services 3-21-11

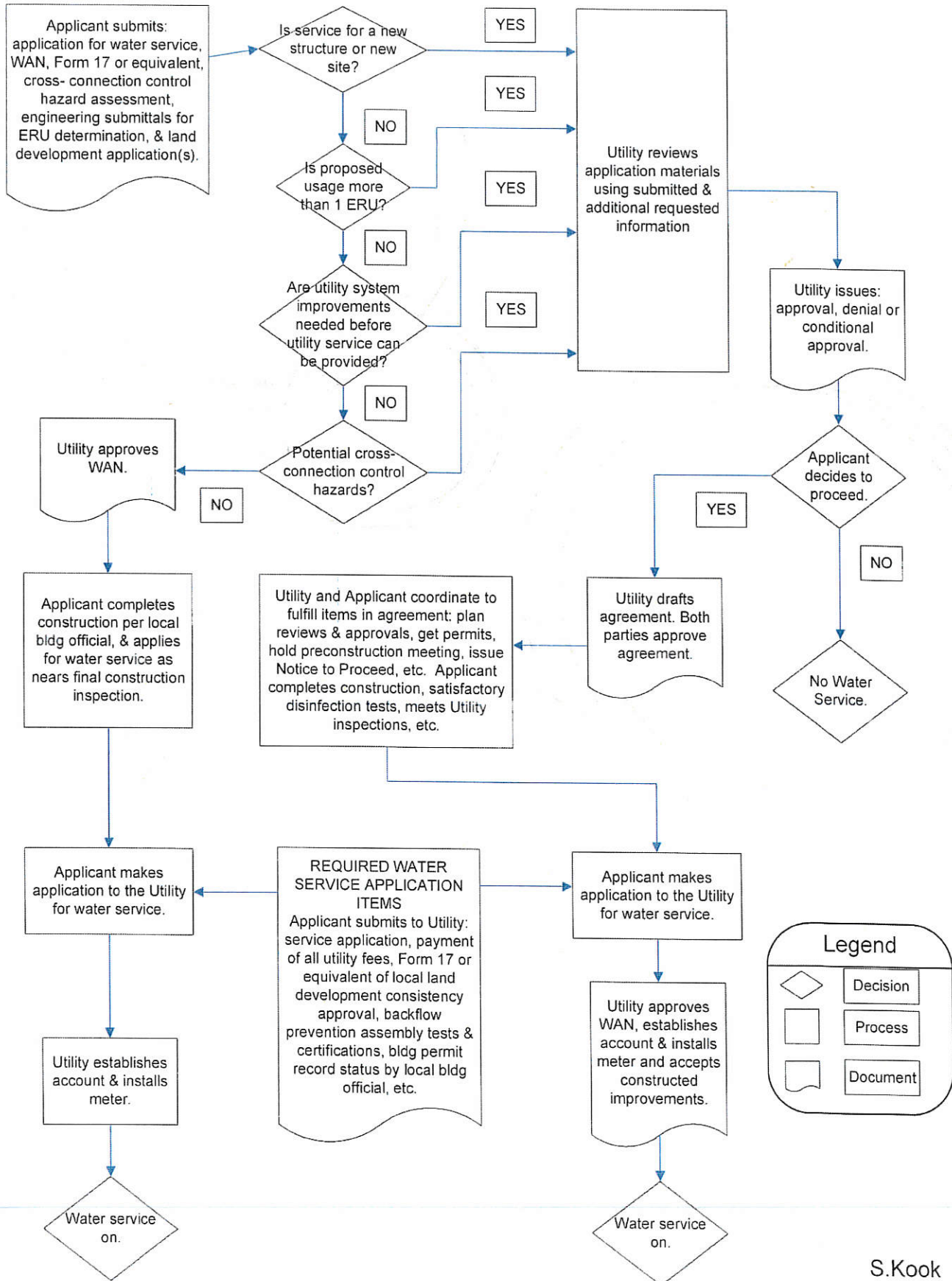
Date: \_\_\_\_\_

Lewis County Courthouse, second floor  
351 NW North Street, Chehalis WA

	Name (Please Print)	Representing	Phone #	Email	Address
1.	Van Idings				Vader
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

# Water Utility Service

Associated with Land Development Activities



**LEWIS COUNTY COMMUNITY DEVELOPMENT**  
**WATER AVAILABILITY NOTIFICATION (WAN) - MUNICIPAL PUBLIC WATER SUPPLY**

(Please Print)

WAN #: \_\_\_\_\_ Development Permit No.: \_\_\_\_\_

PROPERTY LOCATION: \_\_\_\_\_

Applicant's Name [as listed on application] \_\_\_\_\_

Applicant's Mailing Address: \_\_\_\_\_  
Street

City \_\_\_\_\_ Zip \_\_\_\_\_

Type of development to be supplied by the Municipal Water System:

\_\_\_ Single-family residential \_\_\_ Multi-family residential \_\_\_ Commercial \_\_\_ Other (describe) \_\_\_\_\_

Number of connections necessary for proposal \_\_\_\_\_

**Note: Certification of water availability by a municipal water provider only indicates that water adequate for the above proposed use is available on the date of certification. It is the responsibility of the developer to assure that all fees are paid and all other requirements are met for connection to the water system. Neither the Municipal water purveyor nor the County can guarantee future water connection until all fees are paid and all other requirements for connection are met.**

Signature of Applicant \_\_\_\_\_

Date: \_\_\_\_\_

**Note: A fee may be charged by the municipal water purveyor for review of this application.**

**Municipal Public Water Supply Availability**

*(To be completed by a water purveyor.)*

System Name: \_\_\_\_\_ ID # \_\_\_\_\_  
Membership/Account# \_\_\_\_\_ Total WSDOH approved connections \_\_\_\_\_

Total number of connections currently being served \_\_\_\_\_

This system is capable of and will supply water to: (check one /fill in the blanks)

☐ Tax Parcel # \_\_\_\_\_ Lot(s) or Space(s) # \_\_\_\_\_

☐ Short Plat # \_\_\_\_\_ Lot(s) or Space(s) # \_\_\_\_\_

This property is located at the address listed at the top of this page and the proposed use is indicated.

On this date, municipal water, adequate for the proposed use indicated above, is available for the above project/use, consistent with the systems approved water plan, per WAC 246-290 or WAC 246-291. Connection to the system requires that all fees are paid and all other requirements shall be met by the applicant. Compliance and consistency with adopted water plans, regulated by the state DOH, is the responsibility of the municipal water purveyor.

Certified by (Signature/ Title): \_\_\_\_\_ Date: \_\_\_\_\_

Address \_\_\_\_\_ Phone Number \_\_\_\_\_

**NOTE:** Availability of water does not guarantee the granting of a building or sewage permit. Unsuitable soils or site may result in denial of sewage and/or building permits.

**Preliminary Project Cost Estimate  
ST-1 Reservoir Life Extension**

#	ITEM	QUANTITY	UNIT	UNIT COST (\$)	AMOUNT (\$)
1	Mobilization & Cleanup	1	LUMP SUM	8,000	8,000
3	Structure Excavation	1	LUMP SUM	1,000	1,000
4	Reservoir Foundation	1	LUMP SUM	15,000	15,000
6	Site Piping	1	LUMP SUM	10,000	10,000
7	Electrical, Telemetry & Instrumentation	1	LUMP SUM	10,000	10,000
8	Recoating, Interior & Exterior	11,965	SF	9	107,685
9	Crushed Surfacing Base Course	140	CY	60	8,400
10	Crushed Surfacing Top Course	70	CY	60	4,200
11	Shoring or Extra Excavation Class B	1	LUMP SUM	400	400
Subtotal					\$164,685
Sales Tax at 8%					\$13,175
Subtotal					\$177,860
Contingency at 20%					\$35,572
Total Estimated Construction Cost					\$213,432
Engineering & Administration Costs at 25%					\$53,358
<b>Total Estimated Project Cost</b>					<b>\$266,790</b>

**Preliminary Project Cost Estimate  
ST-2 Additional Reservoir**

#	ITEM	QUANTITY	UNIT	UNIT COST (\$)	AMOUNT (\$)
1	Mobilization, Cleanup and Demobilization	1	LUMP SUM	25,000	25,000
2	Removal of Structure & Obstruction	1	LUMP SUM	4,000	4,000
3	Structure Excavation	1	LUMP SUM	5,000	5,000
4	Reservoir Foundation	1	LUMP SUM	30,000	30,000
5	Steel Reservoir	1	LUMP SUM	270,000	270,000
6	Site Piping	1	LUMP SUM	40,000	40,000
7	Electrical, Telemetry & Instrumentation	1	LUMP SUM	50,000	50,000
8	Landscaping	1	LUMP SUM	7,000	7,000
9	Crushed Surfacing Base Course	140	CY	60	8,400
10	Crushed Surfacing Top Course	70	CY	60	4,200
11	Shoring or Extra Excavation Class B	1	LUMP SUM	5,000	5,000
12	Surveying	1	LUMP SUM	2,000	2,000
Subtotal					\$450,600
Sales Tax at 8%					\$36,048
Subtotal					\$486,648
Contingency at 20%					\$97,330
Total Estimated Construction Cost					\$583,978
Engineering & Administration Costs at 25%					\$145,994
Total Estimated Project Cost					\$729,972

**Preliminary Project Cost Estimate**  
**D-1 SR 506 West of Olequa Creek Water Main Replacement**

#	ITEM	QUANTITY	UNIT	UNIT COST (\$)	AMOUNT (\$)
1	Mobilization, Cleanup and Demobilization Connection to Existing Water Main and	1	LUMP SUM	7,000	7,000
2	Abandon Existing Water System in Place	1	EACH	3,000	3,000
3	Hydrant Assembly	1	EACH	6,000	6,000
4	Service Connection 1 In. Diam.	5	EACH	1,200	6,000
5	Boring Under SR 506	2	EACH	15,000	30,000
6	PVC Pipe for Water Main 4 In. Diam.	60	LF	25	1,500
7	PVC Pipe for Water Main 6 In. Diam.	20	LF	30	600
8	Crushed Surfacing Base Course	10	CY	60	600
9	Crushed Surfacing Top Course	10	CY	60	600
10	Commercial HMA	5	TON	200	1,000
11	Gate Valve 4 In.	1	EACH	1,000	1,000
12	Gate Valve 6 In.	2	EACH	1,100	2,200
13	Erosion Control	1	LUMP SUM	1,000	1,000
14	Traffic Control	1	LUMP SUM	6,000	6,000
15	Roadway Surveying	1	LUMP SUM	120	120
Subtotal					\$66,620
Sales Tax at 8%					\$5,330
Subtotal					\$71,950
Contingency at 20%					\$14,390
Total Estimated Construction Cost					\$86,340
Engineering & Administration Costs at 25%					\$21,585
<b>Total Estimated Project Cost</b>					<b>\$107,924</b>



**Preliminary Project Cost Estimate**  
**D-2 Firgrove Road, Enchanted Valley Drive South & Horseshoe Bend**  
**Water Main Improvements**

#	ITEM	QUANTITY	UNIT	UNIT COST (\$)	AMOUNT (\$)
1	Mobilization, Cleanup and Demobilization Connection to Existing Water Main and	1	LUMP SUM	5,000	5,000
2	Abandon Existing Water System In Place	4	EACH	3,000	12,000
3	Blowoff Assembly	2	EACH	3,000	6,000
3	Service Connection 1 In. Diam.	16	EACH	1,200	19,200
4	PVC Pipe for Water Main 4 In. Diam.	700	LF	25	17,500
5	PVC Pipe for Water Main 6 In. Diam.	1,400	LF	30	42,000
6	Crushed Surfacing Base Course	26	CY	60	1,556
7	Crushed Surfacing Top Course	17	CY	60	1,027
8	Commercial HMA	5	TON	200	1,000
9	Gate Valve 4 In.	1	EACH	1,000	1,000
10	Gate Valve 6 In.	2	EACH	1,100	2,200
11	Erosion Control	1	LUMP SUM	1,400	1,400
12	Traffic Control	1	LUMP SUM	4,200	4,200
13	Controlled Density Fill	10	CY	100	1,000
14	Roadway Surveying	1	LUMP SUM	1,400	1,400
Subtotal					\$116,482
Sales Tax at 8%					\$9,319
Subtotal					\$125,801
Contingency at 20%					\$25,160
Total Estimated Construction Cost					\$150,961
Engineering & Administration Costs at 25%					\$37,740
Total Estimated Project Cost					\$188,701

**Preliminary Project Cost Estimate**  
**D-3 Enchanted Valley Water Main Improvements**

#	ITEM	QUANTITY	UNIT	UNIT COST (\$)	AMOUNT (\$)
1	Mobilization, Cleanup and Demobilization Connection to Existing Water Main and	1	LUMP SUM	10,000	10,000
2	Abandon Existing Water System In Place	7	EACH	3,000	21,000
3	Service Connection 1 In. Diam.	61	EACH	1,200	73,200
4	Boring Under SR 506 and SR 411	2	EACH	15,000	30,000
5	PVC Pipe for Water Main 6 In. Diam.	1,300	LF	30	39,000
6	PVC Pipe for Water Main 8 In. Diam.	6,150	LF	35	215,250
7	Crushed Surfacing Base Course	138	CY	60	8,278
8	Crushed Surfacing Top Course	91	CY	60	5,463
9	Commercial HMA	15	TON	200	3,000
10	Gate Valve 6 In.	4	EACH	1,100	4,400
11	Gate Valve 8 In.	13	EACH	1,200	15,600
12	Erosion Control	1	LUMP SUM	7,450	7,450
13	Traffic Control	1	LUMP SUM	14,900	14,900
14	Controlled Density Fill	5	CY	100	500
15	Roadway Surveying	1	LUMP SUM	7,450	7,450
Subtotal					\$455,491
Sales Tax at 8%					\$36,439
Subtotal					\$491,930
Contingency at 20%					\$98,386
Total Estimated Construction Cost					\$590,316
Engineering & Administration Costs at 25%					\$147,579
<b>Total Estimated Project Cost</b>					<b>\$737,896</b>

**Preliminary Project Cost Estimate  
D-4 8th Street Water Main Replacement**

#	ITEM	QUANTITY	UNIT	UNIT COST (\$)	AMOUNT (\$)
1	Mobilization, Cleanup and Demobilization Connection to Existing Water Main and	1	LUMP SUM	5,000	5,000
2	Abandon Existing Water System In Place	5	EACH	3,000	15,000
3	Service Connection 1 In. Diam.	11	EACH	1,200	13,200
4	PVC Pipe for Water Main 8 In. Diam.	2,300	LF	35	80,500
5	Crushed Surfacing Base Course	43	CY	60	2,556
6	Crushed Surfacing Top Course	28	CY	60	1,687
7	Commercial HMA	15	TON	200	3,000
8	Gate Valve 8 In.	10	EACH	1,200	12,000
9	Erosion Control	1	LUMP SUM	2,300	2,300
10	Traffic Control	1	LUMP SUM	4,600	4,600
11	Controlled Density Fill	10	CY	100	1,000
12	Roadway Surveying	1	LUMP SUM	2,300	2,300
Subtotal					\$143,142
Sales Tax at 8%					\$11,451
Subtotal					\$154,594
Contingency at 20%					\$30,919
Total Estimated Construction Cost					\$185,512
Engineering & Administration Costs at 25%					\$46,378
<b>Total Estimated Project Cost</b>					<b>\$231,890</b>

**Preliminary Project Cost Estimate**  
**D-5 7th Street Water Main Replacement**

#	ITEM	QUANTITY	UNIT	UNIT COST (\$)	AMOUNT (\$)
1	Mobilization, Cleanup and Demobilization Connection to Existing Water Main and	1	LUMP SUM	7,000	7,000
2	Abandon Existing Water System In Place	10	EACH	3,000	30,000
3	Blowoff Assembly	2	EACH	3,000	6,000
3	Service Connection 1 In. Diam.	22	EACH	1,200	26,400
4	Boring Under SR 506	1	EACH	15,000	15,000
5	PVC Pipe for Water Main 8 In. Diam.	5,400	LF	35	189,000
6	Crushed Surfacing Base Course	100	CY	60	6,000
7	Crushed Surfacing Top Course	66	CY	60	3,960
8	Commercial HMA	-	TON	200	-
9	Gate Valve 8 In.	18	EACH	1,200	21,600
10	Erosion Control	1	LUMP SUM	2,700	2,700
11	Traffic Control	1	LUMP SUM	8,100	8,100
12	Controlled Density Fill	-	CY	100	-
13	Roadway Surveying	1	LUMP SUM	5,400	5,400
Subtotal					\$321,160
Sales Tax at 8%					\$25,693
Subtotal					\$346,853
Contingency at 20%					\$69,371
Total Estimated Construction Cost					\$416,223
Engineering & Administration Costs at 25%					\$104,056
Total Estimated Project Cost					\$520,279

**Preliminary Project Cost Estimate**  
**D-6 9th Street and C Street Water Main Replacements**

#	ITEM	QUANTITY	UNIT	UNIT COST (\$)	AMOUNT (\$)
1	Mobilization, Cleanup and Demobilization Connection to Existing Water Main and	1	LUMP SUM	5,000	5,000
2	Abandon Existing Water System In Place	5	EACH	3,000	15,000
3	Blowoff Assembly	1	EACH	3,000	3,000
3	Service Connection 1 In. Diam.	11	EACH	1,200	13,200
4	PVC Pipe for Water Main 8 In. Diam.	1,250	LF	35	43,750
5	Crushed Surfacing Base Course	23	CY	60	1,389
6	Crushed Surfacing Top Course	15	CY	60	917
7	Commercial HMA	-	TON	200	-
8	Gate Valve 8 In.	6	EACH	1,200	7,200
9	Erosion Control	1	LUMP SUM	1,250	1,250
10	Traffic Control	1	LUMP SUM	2,500	2,500
11	Controlled Density Fill	-	CY	100	-
12	Roadway Surveying	1	LUMP SUM	1,250	1,250
Subtotal					\$94,456
Sales Tax at 8%					\$7,556
Subtotal					\$102,012
Contingency at 20%					\$20,402
Total Estimated Construction Cost					\$122,414
Engineering & Administration Costs at 25%					\$30,604
<b>Total Estimated Project Cost</b>					<b>\$153,018</b>

**Preliminary Project Cost Estimate**  
**D-7 Annonen Road Water Main Improvement**

#	ITEM	QUANTITY	UNIT	UNIT COST (\$)	AMOUNT (\$)
1	Mobilization, Cleanup and Demobilization Connection to Existing Water Main and	1	LUMP SUM	5,000	5,000
2	Abandon Existing Water System In Place	1	EACH	3,000	3,000
3	Blowoff Assembly	1	EACH	3,000	3,000
3	Service Connection 1 In. Diam.	4	EACH	1,200	4,800
4	PVC Pipe for Water Main 4 In. Diam.	1,100	LF	25	27,500
5	Crushed Surfacing Base Course	20.37	CY	60	1,222
6	Crushed Surfacing Top Course	13.44	CY	60	807
7	Commercial HMA	5	TON	200	1,000
8	Gate Valve 4 In.	1	EACH	1,000	1,000
9	Erosion Control	1	LUMP SUM	1,100	1,100
10	Traffic Control	1	LUMP SUM	3,300	3,300
11	Controlled Density Fill	10	CY	100	1,000
12	Roadway Surveying	1	LUMP SUM	1,100	1,100
Subtotal					\$53,829
Sales Tax at 8%					\$4,306
Subtotal					\$58,135
Contingency at 20%					\$11,627
Total Estimated Construction Cost					\$69,762
Engineering & Administration Costs at 25%					\$17,441
<b>Total Estimated Project Cost</b>					<b>\$87,203</b>

**Preliminary Project Cost Estimate  
D-8. D and E Streets Loop**

#	ITEM	QUANTITY	UNIT	UNIT COST (\$)	AMOUNT (\$)
1	Mobilization, Cleanup and Demobilization Connection to Existing Water Main and	1	LUMP SUM	5,000	5,000
2	Abandon Existing Water System In Place	2	EACH	3,000	6,000
3	Blowoff Assembly	-	EACH	3,000	-
3	Service Connection 1 In. Diam.	9	EACH	1,200	10,800
4	PVC Pipe for Water Main 8 In. Diam.	1,300	LF	35	45,500
5	Crushed Surfacing Base Course	24.07	CY	60	1,444
6	Crushed Surfacing Top Course	15.89	CY	60	953
7	Commercial HMA	-	TON	200	-
8	Gate Valve 8 In.	2	EACH	1,200	2,400
9	Erosion Control	1	LUMP SUM	1,300	1,300
10	Traffic Control	1	LUMP SUM	3,900	3,900
11	Controlled Density Fill	-	CY	100	-
12	Roadway Surveying	1	LUMP SUM	1,300	1,300
Subtotal					\$78,598
Sales Tax at 8%					\$6,288
Subtotal					\$84,886
Contingency at 20%					\$16,977
Total Estimated Construction Cost					\$101,863
Engineering & Administration Costs at 25%					\$25,466
Total Estimated Project Cost					\$127,328

**Preliminary Project Cost Estimate  
D-9 Customer Shutoff Valves**

#	ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
1	Mobilization, Cleanup and Demobilization	1	LUMP SUM	7,000	7,000
2	Service Connection 1 In. Diam.	280	EACH	300	84,000
3	Crushed Surfacing Base Course	10	CY	60	600
4	Crushed Surfacing Top Course	10	CY	60	600
5	Erosion Control	1	LUMP SUM	1,000	1,000
6	Traffic Control	1	LUMP SUM	2,000	2,000
Subtotal					\$95,200
Sales Tax at 8%					\$7,616
Subtotal					\$102,816
Contingency at 20%					\$20,563
Total Estimated Construction Cost					\$123,379
Engineering & Administration Costs at 25%					\$30,845
Total Estimated Project Cost					\$154,224



**Preliminary Project Cost Estimate**  
**D-11 Pressure Reducing Valve Stations**

#	ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
1	Mobilization, Cleanup and Demobilization	1	LUMP SUM	500	500
2	Pressure Reducing Valve Assemblies	2	EACH	2500	5,000
3	Vault	2	EACH	1000	2,000
3	Crushed Surfacing Base Course	10	CY	60	600
4	Crushed Surfacing Top Course	10	CY	60	600
5	Erosion Control	1	LUMP SUM	1,000	1,000
6	Traffic Control	1	LUMP SUM	2,000	2,000
Subtotal					\$11,700
Sales Tax at 8%					\$936
Subtotal					\$12,636
Contingency at 20%					\$2,527
Total Estimated Construction Cost					\$15,163
Engineering & Administration Costs at 25%					\$3,791
<b>Total Estimated Project Cost</b>					<b>\$18,954</b>

**Preliminary Project Cost Estimate**  
**TR Treatment Energy Improvement Projects**

#	ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
TR-1	Turbidimeters	1	LUMP SUM	3000	\$3,000
TR-2	Chartless Recorders	1	LUMP SUM	6500	\$6,500
TR-3	Comprehensive Electrical Survey On-line Analyzer (temperature,pH, chlorine	1	LUMP SUM	10000	\$10,000
TR-4	residual)	1	LUMP SUM	6500	\$6,500
TR-5	PLC	1	LUMP SUM	20000	\$20,000
TR-6	Leak Detection Survey	1	LUMP SUM	4000	\$4,000
TR-7	Energy Audits	1	LUMP SUM	4000	\$4,000

# CROSS CONNECTION CONTROL PROGRAM

For the

## Vader-Enchanted Valley Water System

### Purpose

A cross-connection is any physical arrangement where the potable water supply is connected, directly or indirectly, to any liquid of unknown or unsafe quality. This includes any liquids that may contaminate the public water supply through backflow or reverse flow.

Under WAC 246-290-490, Cross-Connection Control, utilities have the responsibility to protect the water user from contamination due to cross connections. The regulation also requires utilities to develop and implement a comprehensive program to control cross connections within the system. The purpose of the program is to protect the health of water consumers and the potability of the public water system by assuring:

- Inspection and regulation of plumbing in existing and proposed piping networks.
- Proper installation and surveillance of backflow prevention assemblies when actual or potential cross connections exist and cannot be regulated.

WAC 246-290-490 mandates a cross-connection control program (CCCP) for the purposes of establishing:

- Minimum cross-connection control operating policies
- Backflow prevention assembly installation practices
- Backflow prevention assembly testing procedures
- Enforcement authority.

### Guidance

The CCCP is developed to comply with WAC 246-290-490 and the recommended guidance:

- Manual of Cross-Connection Control published by the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern CA (USC Manual).
- Cross-Connection Control Manual, Accepted Procedure and Practice published by the Pacific Northwest Section of the American Water Works Association (PNWS-AWWA Manual).
- Cross-Connection Control for Small Water Systems by DOH.

## Definitions

Unless otherwise defined, all CCC related terms used in this program have the same definitions as those contained in WAC 246-290-010.

“Customer” shall mean any person, firm, or corporation obtaining or using water service from the water system of the utility.

“Department” shall mean the State Department of Health (DOH).

“Public Works” shall mean the department of public works of Lewis County.

## Program Elements

Specific issues have to be in an effective CCCP. WAC 246-290-490 outlines ten minimum elements to be in a CCCP.

### Element 1: Legal Authority

The CCCP is outlined in this chapter and will be adopted with the approval of the Water System Plan (WSP) or singly by the county commissioners. Title 13 of the Lewis County Code (LCC) lays out policies for:

- Violations and appeals (13.20.060 LCC)
- Application, review and approval (13.30.100 LCC)
- Violation of utility regulations (13.30.120 LCC)
- Required inspections (13.30.400 LCC)
- Right-of-entry (13.30.410 LCC)
- Correction of unsafe conditions (13.30.500)
- Conditions of utility service (13.80.100 LCC).
- Backflow Prevention Requirements (13.80.100(6)).

These policies provide authorization to implement the current cross-connection control program. Title 13 LCC is available at [www.lewiscountywa.gov](http://www.lewiscountywa.gov). A code amendment is planned at the end of 2014 which will further strengthen authorization to enact programs consistent with WSPs of county owned utilities.

### Element 2: Hazard Assessment

Three existing cross-connection assemblies were identified in the 2008 WSP. These locations were: city wastewater treatment plant (WWTP), water treatment plant and the local Little Crane Restaurant. The latter two locations were addressed in March 2011: there is an air gap in the water plant and the soda machine at the local eatery uses bottled water. The backflow assembly at the local WWTP was deemed antiquated in July 2011. The City of Vader constructed a new backflow assembly and hot box in January 2013.

A water use questionnaire was distributed to customers in December 2013, and all new customers have to complete a water use questionnaire along with an application of service. Lewis County requires all new building development in the service area to have a completed Public Water Availability Notification form. This form shows that we are capable of providing water service to the proposed project site. As part of the approval process, the utility asks for a



completed water service application and water use questionnaire. If any backflow prevention assemblies are required, it is noted on our database and county land development permitting database, and required to be complete before occupancy.

#### Element 3: Control

Additional control measures were taken by installing backflow assemblies adjacent to the service meters for the local WWTP in 2011 and fire district in 2012. All new commercial service connections are required to install backflow assemblies as a condition of water service. Utility personnel use the current WSDOH approved list of backflow assemblies available at the WSDOH website.

Meter setters for residential customers generally have a check valve, and these types are used as we perform repairs on service lines. As resources allow, we would like to construct customer shutoff valves and replace meter setters to have additional layers of protection. When possible in repairing a customer line, we install a customer shutoff valve.

#### Element 4: CCS Personnel

Operations personnel performed CCS program tasks when the system was managed by the City of Vader. Training has been approved and CCS certification is encouraged for current operation personnel. We currently use a contract CCS specialist.

#### Element 5: Inspection

We notify customers of upcoming test and completion dates.

#### Element 6: Quality Control Testing Program

Testing is performed by the customer. Our notification letter includes guidance to use BAT certified contractors.

#### Element 7: Backflow Incident Response

In the event a backflow incident occurs due to human error, main break or power outage, we will follow procedures similar to a water main break as outlined in our SOP Manual. The following steps will be taken when a backflow incident has occurred, and steps may be done concurrently depending upon the situation.

- Report incident and request assistance to the Administrator and supervisor.
- Assess situation.
- Investigate and find the source of the contamination.
- Depending upon the severity of the contamination, contact WSDOH.
- Isolate the contamination by closing valves but leave one valve open to maintain pressure in the isolated segment.
- Public Works will ask for CodeRED to be issued to customers about the incident and to not use water.
- Find the source of the contamination, discontinue service to that customer and notify customer to complete corrective action.
- If appropriate, refer customers that may have consumed the contaminant or had their plumbing system contaminated to Lewis County Health, Building Division of the Lewis County Community Development Dept., and City of Vader.

- Formulate plan to clean the contaminated system consistent with the identified contaminant(s).
- Flush portions of the affected system.
- Disinfect the flushed portions of the system.
- Notify customers of completion by issuing another CodeRED or door-to-door notice.

Most chemical or physical contaminants can be flushed from the system or customer's plumbing system with adequate flushing velocity. At times, flushing may not be adequate in systems where scale and corrosion deposits (e.g., tuberculation on old cast iron mains) provide a restriction to get adequate flushing velocity, or where chemical deposits or bacteriological slimes (biofilm) are present.

In these situations, other methods such as a foam swab (pig) or alteration of the chemical contaminant may be needed. An example of the latter method could be alteration through oxidation by using chlorination or addition of detergents.

To disinfect water mains using the "slug" or "continuous flow" method, a field unit should be used for chlorine injection. The field unit can be a chemical feed metering or proportioning pump for sodium hypochlorite.

When adding any chemical, including chlorine, to remove a contaminant from the system, it is important that the chemistry of the contaminant is understood. Adding the wrong chemical could make the contaminant more toxic or more difficult to remove from the distribution main.

It is advised to contact the regional DOH office to discuss the proposed methods for contaminant removal and disinfection prior to taking corrective action.

#### Element 8: Public Education

Information about cross-connection control is provided to our customers in newsletter and the latest water use questionnaire (December 2013).

#### Element 9: Records

A master list is kept and the new utility billing software has fields to record the information for the service address.

#### Element 10: Reclaimed Water Requirements

We do not distribute or have facilities that receive reclaimed water.



## *Lewis County Department of Public Works*

Timothy R. Elsea, PE, Director / County Engineer

Tim D. Fife, PE, Assistant County Engineer

October 12, 2015

Mayor Ken Smith  
City of Vader  
PO Box 189  
Vader, WA 98593

Re: Backflow Assembly Test Notice for Vader WWTP

Dear Mayor Smith,

According to our records, the backflow prevention assembly listed below is due for testing. The last test was conducted in November 2014 and the test should be done annually.

The test must be done by a backflow assembly tester certified to test assemblies in your area. Please refer to the referenced website for a directory of certified testers in good standing at  
<http://www.doh.wa.gov/CommunityandEnvironment/DrinkingWater/RegulationandCompliance/WaterworksOperatorCertification>.

SERIAL #	LOCATION
385576	In hot box, next to chlorine building

The tester should forward a copy of the completed test report to Lewis County Public Works and provide the City with a copy. Please ensure that the test is completed by the end of December 2015.

Thank you for working with us to protect our drinking water. If you have questions, please contact our office.

Sincerely,

Shirley Kook, PE  
Acting Utility Services Manager

*Road Maintenance & Traffic*  
476 West Main St.  
Chehalis, WA 98532  
O 360.740.3380  
F 360.740.2741  
Erik Martin, PE, Manager

*Administration, Engineering,  
Utilities & Real Estate Services*  
2025 NE Kresky Ave.  
Chehalis, WA 98532  
O 360.740.1123  
F 360.740.1479

*Solid Waste Services*  
Post Office Box 180  
Centralia, WA 98531  
O 360.740.1451  
F 360.330.7805  
Steve Skinner, Manager

Customer Account # \_\_\_\_\_

## WATER USE QUESTIONNAIRE

Please indicate whether the special plumbing or activities listed below apply to your premises.

YES	NO	PLUMBING or ACTIVITY TYPE
		Underground (buried) sprinkler system
		Water treatment system (example: water softener, filter)
		Solar heating system
		Fire sprinkler system
		Other water supply systems (whether or not connected to plumbing system)
		Sewage pumping facilities or grey water system
		Hobby farm
		Animal watering troughs
		Swimming pool or spa
		Greenhouses, hydroponics
		Decorative pond
		Photo lab or dark room
		Dialysis or medical equipment
		Home-based business. If yes, please describe (e.g., beauty salon, machine shop, etc.) _____ _____ _____

Completed by (print name): \_\_\_\_\_

Address (of water service): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Customer's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Thank you for your cooperation!**

Please Return to: Lewis County Public Works, 2025 NE Kresky Ave, Chehalis, WA 98532



## What is a Cross Connection?

A cross connection is a point in a plumbing system where the potable water supply is connected to a non-potable source. Briefly, a cross connection exists whenever the drinking water system is or could be connected to any non-potable source (plumbing fixture, equipment used in any plumbing system). Pollutants or contaminants can enter the safe drinking water system through uncontrolled cross connections when backflow occurs.

Backflow is the unwanted flow of non-potable substances back into the consumer's plumbing system and/or public water system (i.e., drinking water).

There are two types of backflow: **backsiphonage** and **backpressure**. **Backsiphonage** is caused by a negative pressure in the supply line to a facility or plumbing fixture. Backsiphonage may occur during waterline breaks, when repairs are made to the waterlines, when shutting off the water supply, etc.

**Backpressure** can occur when the potable water supply is connected to another system operated at a higher pressure or has the ability to create pressure. Principal causes are booster pumps, pressure vessels and elevated plumbing.

Backflow preventers are mechanical devices designed to prevent backflow through cross connections. However, for backflow preventers to protect as designed, they must meet stringent installation requirements.

For further

information

contact your

local water

purveyor or the

PNWS/AWWA

Cross-Connection

Control Committee

through the

PNWS office at

(877) 767-2992

or on the web at

[www.pnws-awwa.org](http://www.pnws-awwa.org)

© 2005 PNWS/AWWA (Brochure #2)

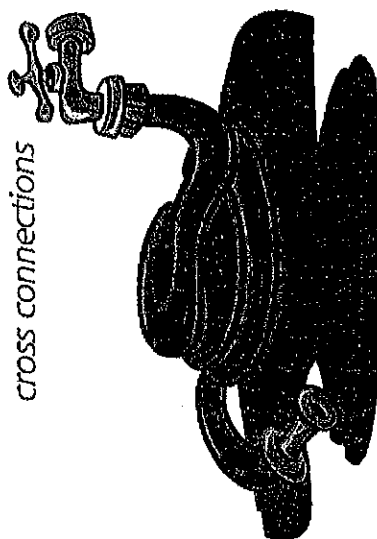
Cross Connections  
can create

Health  
Hazards

Drinking water systems  
may become

**Polluted**  
or  
**Contaminated**

through uncontrolled  
cross connections



American Water Works Association  
Pacific Northwest Section

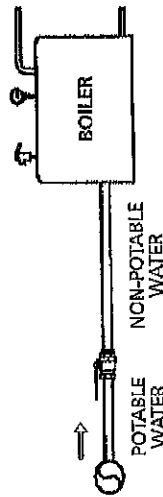
## Why Be Concerned?

Most water systems in the United States and Canada have good sources of water and/or sophisticated treatment plants to convert impure water to meet drinking water standards. Millions of dollars are spent to make the water potable before it enters the distribution system so most water purveyors think that their supplies are not in jeopardy from this point on. Studies have proven this to be wrong. Drinking water systems may become polluted or contaminated in the distribution system through uncontrolled cross connections.

Cross connections are installed each day in the United States because people are unaware of the problems they can create. Death, illness, contaminated food products, industrial and chemical products rendered useless are some of the consequences of such connections. As a result, many hours and dollars are lost due to **cross connections**.

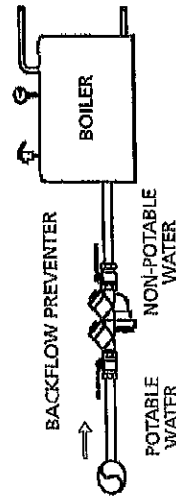
### Wrong:

#### Uncontrolled Cross Connection



### Right:

#### Controlled Cross Connection



## Where are Cross Connections Found?

Cross connections are found in all plumbing systems. It is important that each cross connection be identified and evaluated as to the type of backflow protection required to protect the drinking water supply. Some plumbing fixtures have built-in backflow protection in the form of a physical air gap. However, most cross connections will need to be controlled through the installation of an approved mechanical backflow prevention device or assembly. Some common cross connections found in plumbing and water systems include:

1. Wash basins and service sinks.
2. Hose bibs.
3. Irrigation sprinkler systems.
4. Auxiliary water supplies.
5. Laboratory and aspirator equipment.
6. Photo developing equipment.
7. Processing tanks.
8. Boilers.
9. Water recirculating systems.
10. Swimming pools.
11. Solar heat systems.
12. Fire sprinkler systems.

Every water system has cross connections. Plumbing codes and State drinking water regulations require cross connections to be controlled by approved methods (physical air gap) or approved mechanical backflow prevention devices or assemblies. The various types of mechanical backflow preventers include: reduced pressure backflow assembly (RPBA), reduced pressure detector assembly (RPDA), double check valve assembly (DCVA), double check detector assembly (DCDA), pressure vacuum breaker assembly (PVBA), spill resistant vacuum breaker assembly (SVBA) and atmospheric vacuum breaker (AVB).

For a backflow preventer to provide proper protection, it must be approved for backflow protection, designed for the degree of hazard and backflow it is controlling, installed correctly, tested annually by a State certified tester, and repaired as necessary. Some states require mandatory backflow protection on certain facilities where high health-hazard-type cross connections are normally found. The following is a partial list of those facilities:

1. Hospitals, mortuaries, clinics.
2. Laboratories.
3. Food and beverage processing centers.
4. Metal plating and chemical plants.
5. Car washes.
6. Petroleum processing and storage plants.
7. Piers and docks.
8. Sewage treatment plants.

## What to Do?

It is impossible to cover all of the information pertaining to cross connections in a pamphlet. We hope the preceding information will inspire you to further educate yourself on the hazards of unprotected cross connections. Cross connection control manuals and training schools are offered throughout the Northwest. Information on manuals, schools and cross connection control can be obtained from:

### Washington

Department of Health  
Agricultural Way, Bldg. 3  
P.O. Box 47822  
Olympia, WA 98504-7822  
(360) 236-3133

### Oregon

Oregon Health Division  
3426 Cherry Avenue, #110  
Keizer, OR 97303  
(503) 375-7201

### British Columbia, Canada

BC Water & Waste Association  
Ste. 342 - 17 Fawcett Road  
Coquitlam, B.C. V3K 6V2  
(604) 540-0111

### Idaho

Idaho Division of Environment  
1410 N. Hillton  
Boise, ID 83706  
(208) 373-0275

Additional sources of information may be found on the PNW S-AWWA web site  
[www.pnws-awwa.org](http://www.pnws-awwa.org)